FIG.1

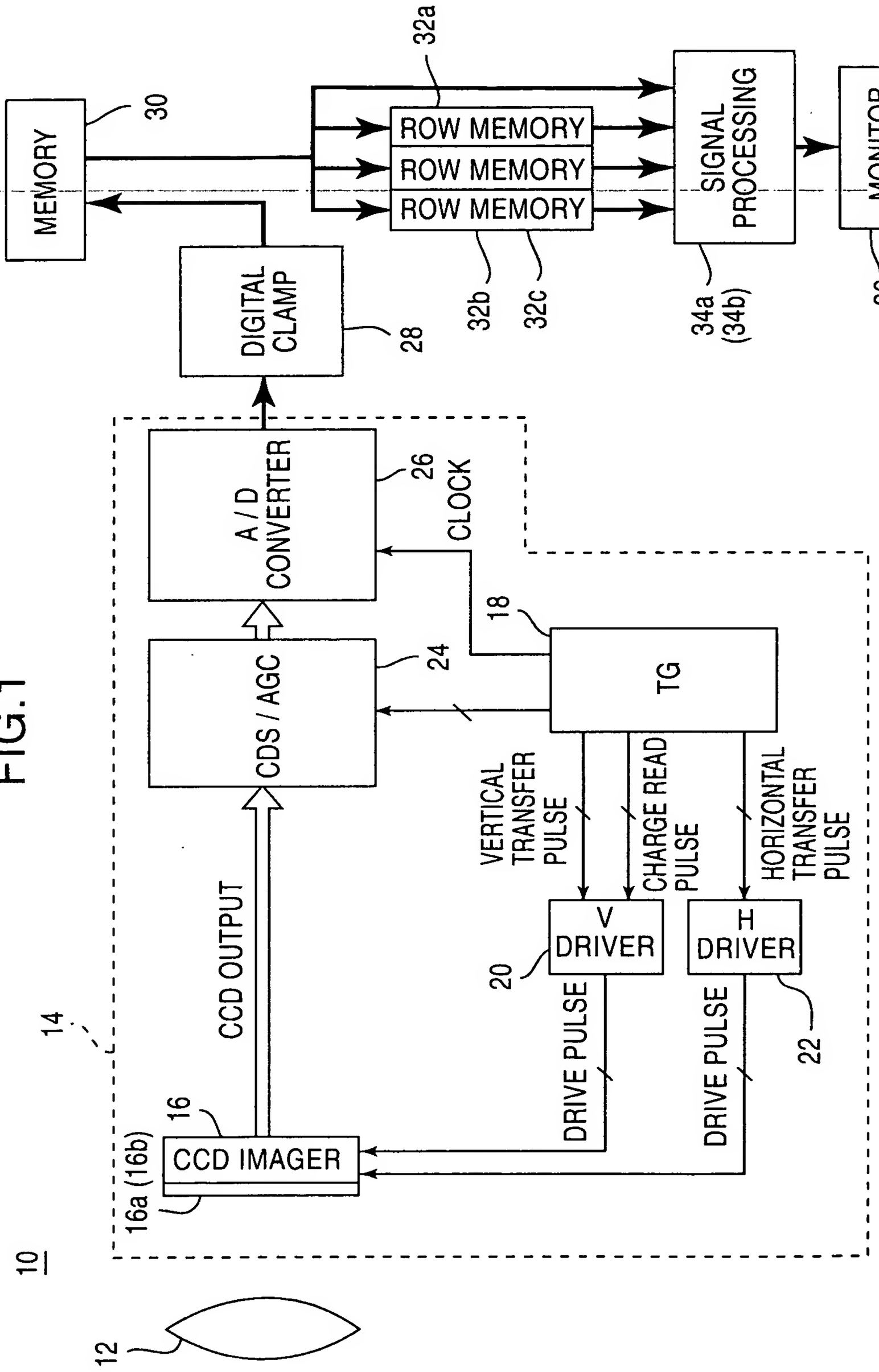


FIG.4(A)

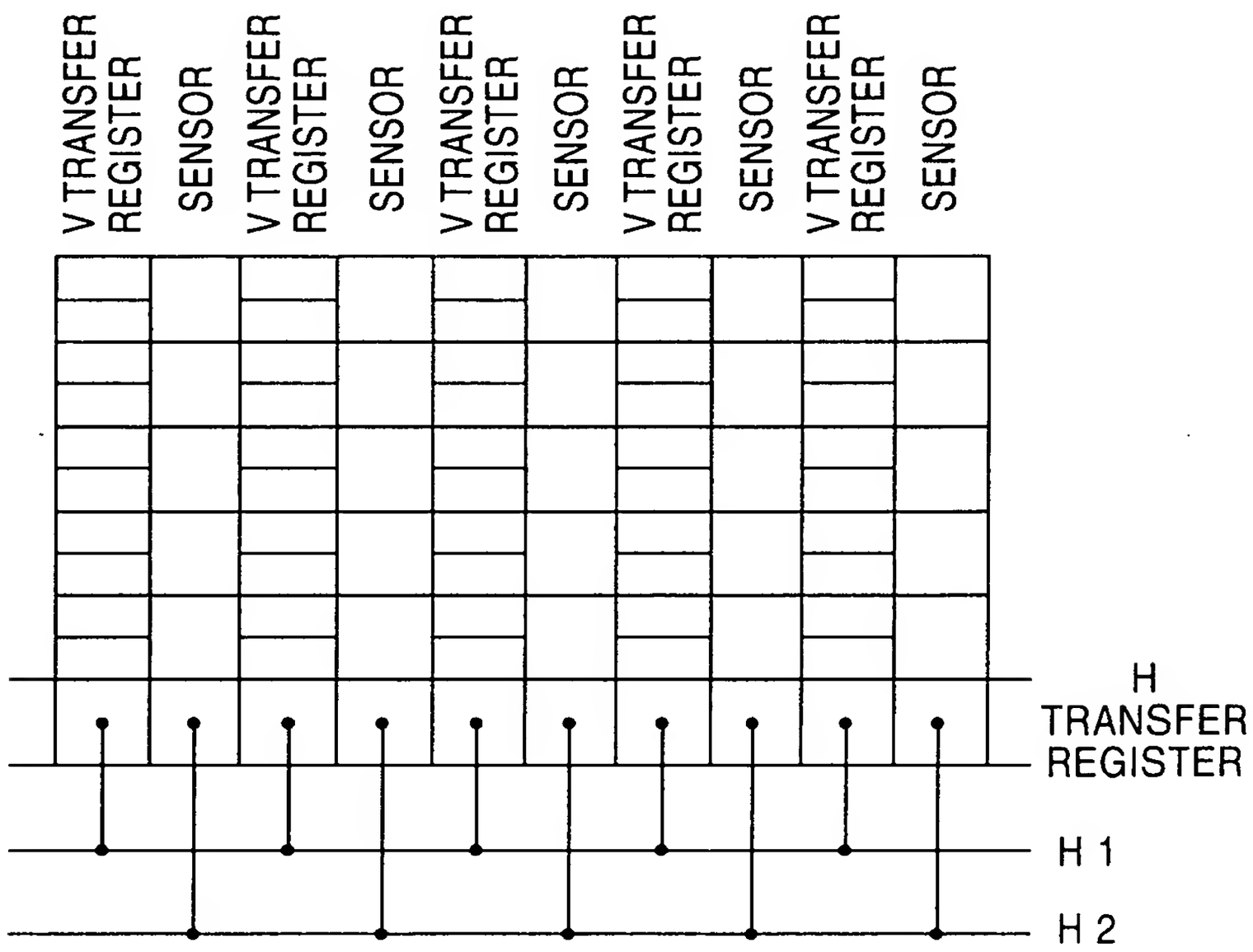

V TRANSFER REGISTER
SENSOR
V TRANSFER REGISTER
SENSOR
V TRANSFER REGISTER
SENSOR
V TRANSFER REGISTER
SENSOR
V TRANSFER REGISTER
SENSOR
H TRANSFER REGISTER
H 1
H 2

FIG.4(B)

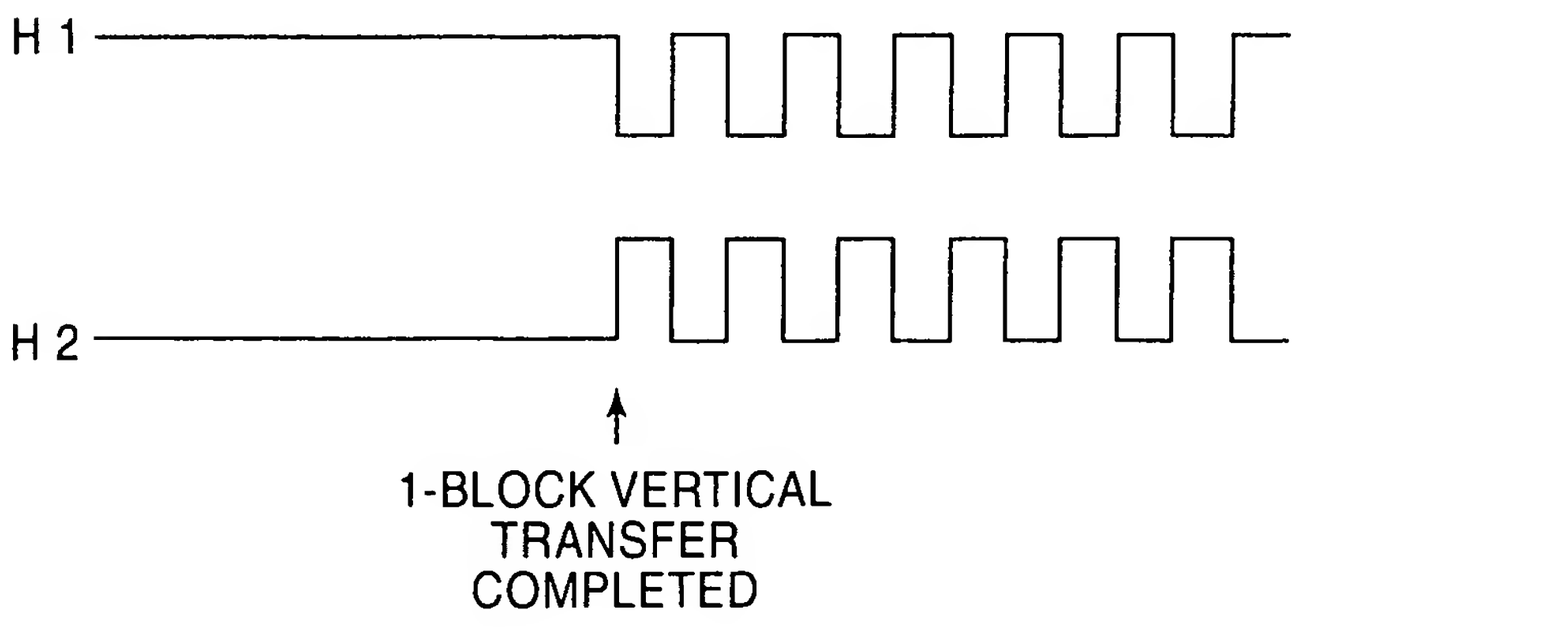

H 1
H 2
1-BLOCK VERTICAL TRANSFER COMPLETED

FIG.5

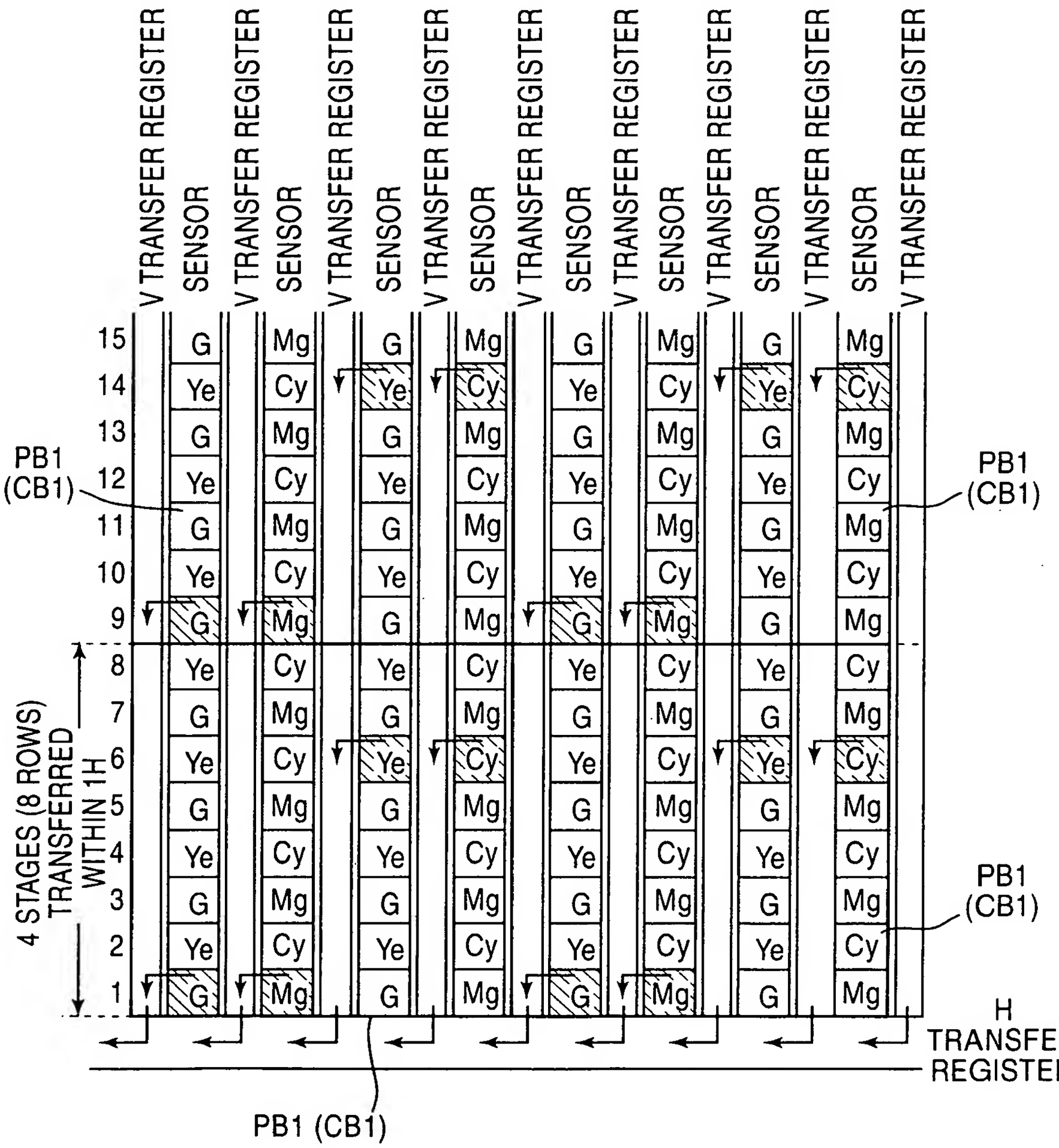

V TRANSFER REGISTER
SENSOR
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
G
Ye
Mg
Cy
PB1 (CB1)
4 STAGES (8 ROWS) TRANSFERRED WITHIN 1H
H TRANSFER REGISTER

FIG.6(A)

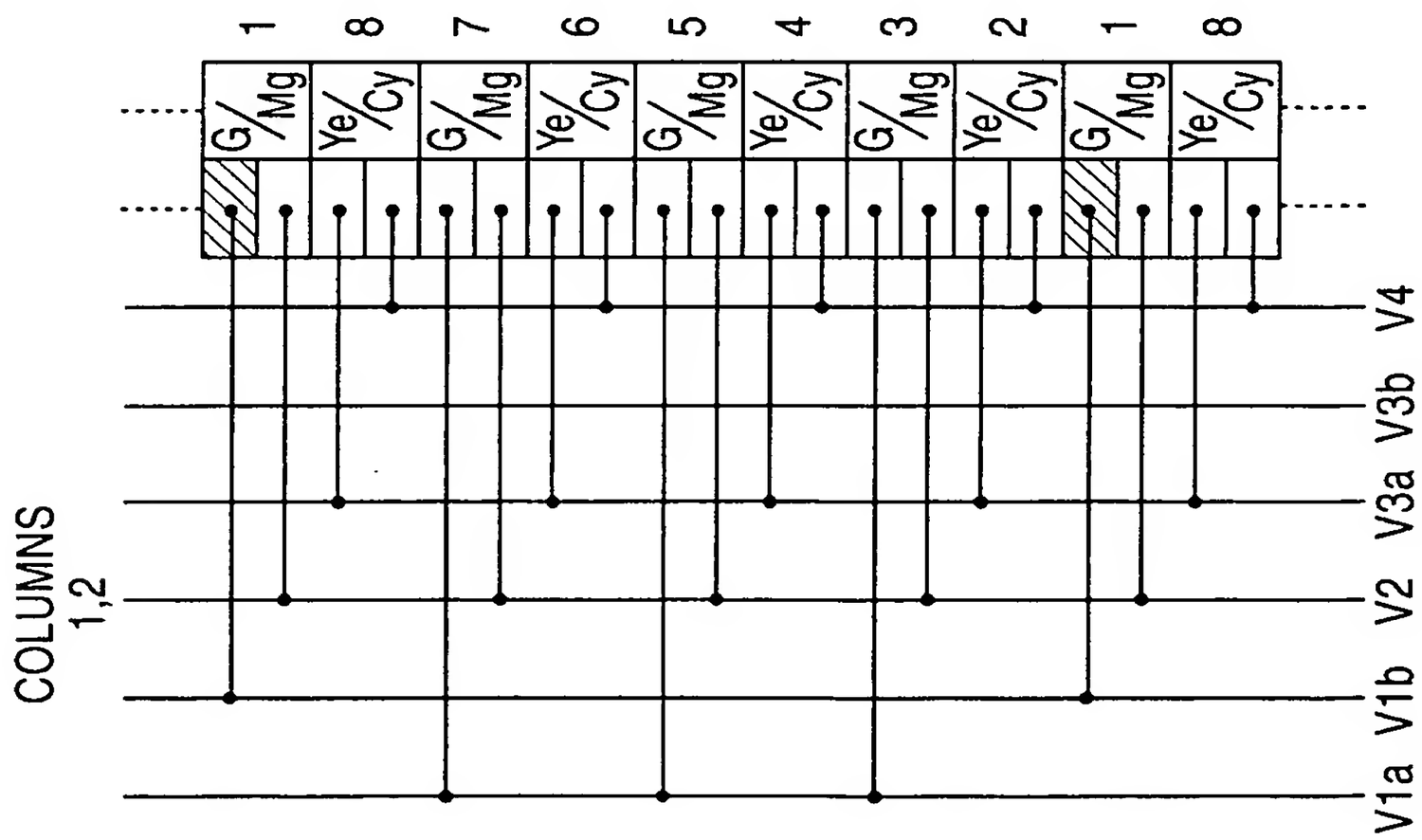

COLUMNS 1,2
1
8
7
6
5
4
3
2
1
8
G/Mg
Ye/Cy
V4
V3b
V3a
V2
V1b
V1a

FIG.6(B)

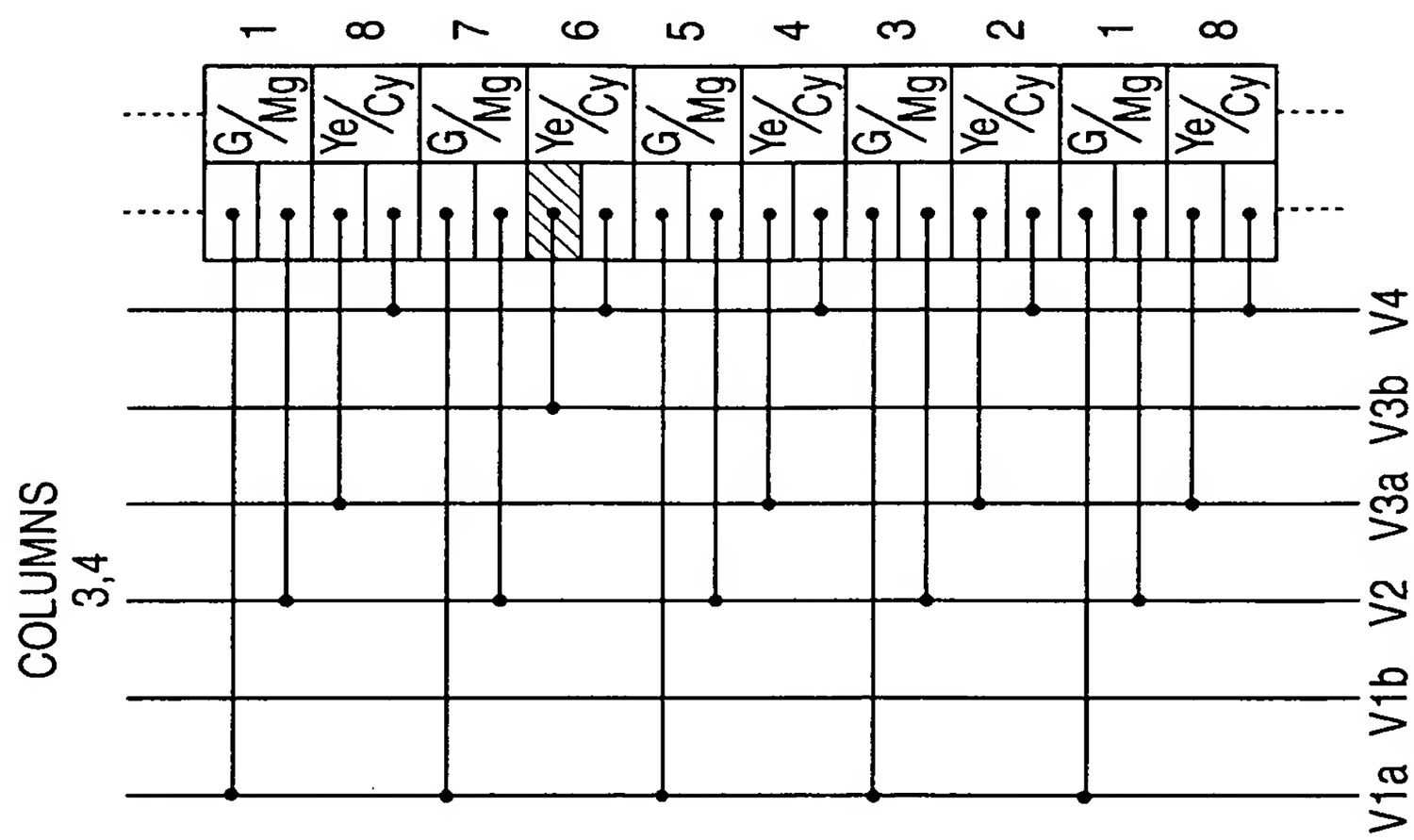

COLUMNS 3,4
1
8
7
6
5
4
3
2
1
8
G/Mg
Ye/Cy
V4
V3b
V3a
V2
V1b
V1a

FIG.7(A)

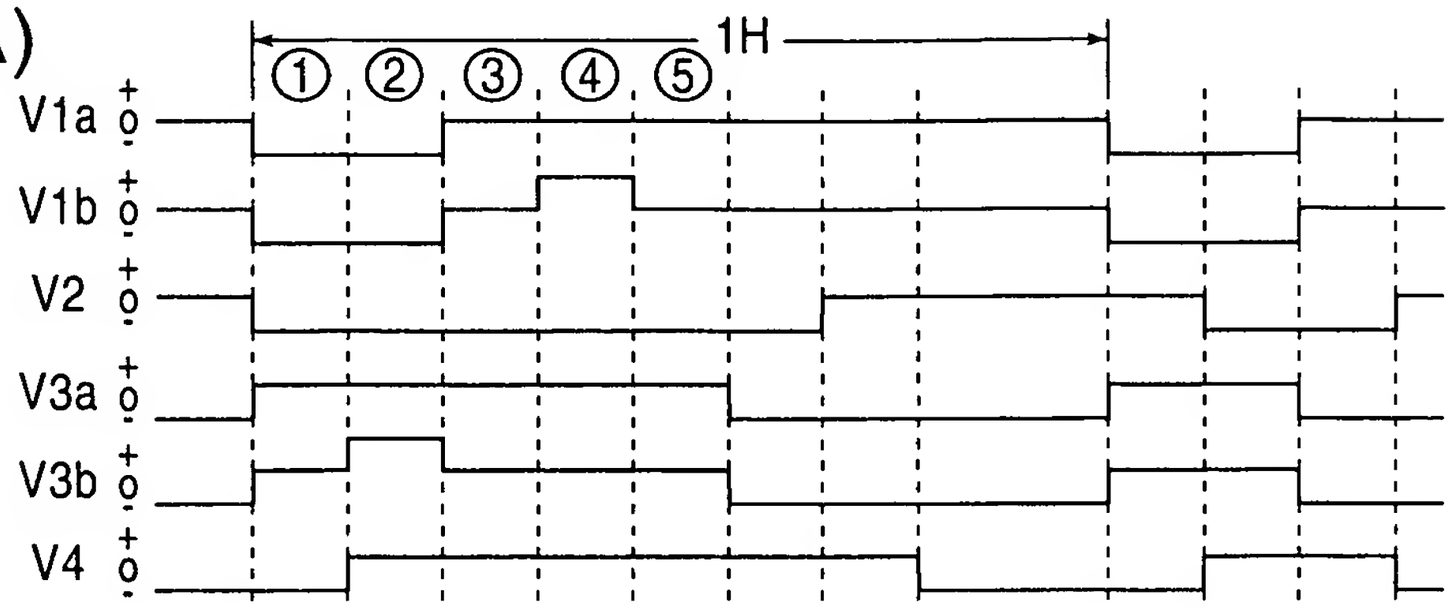
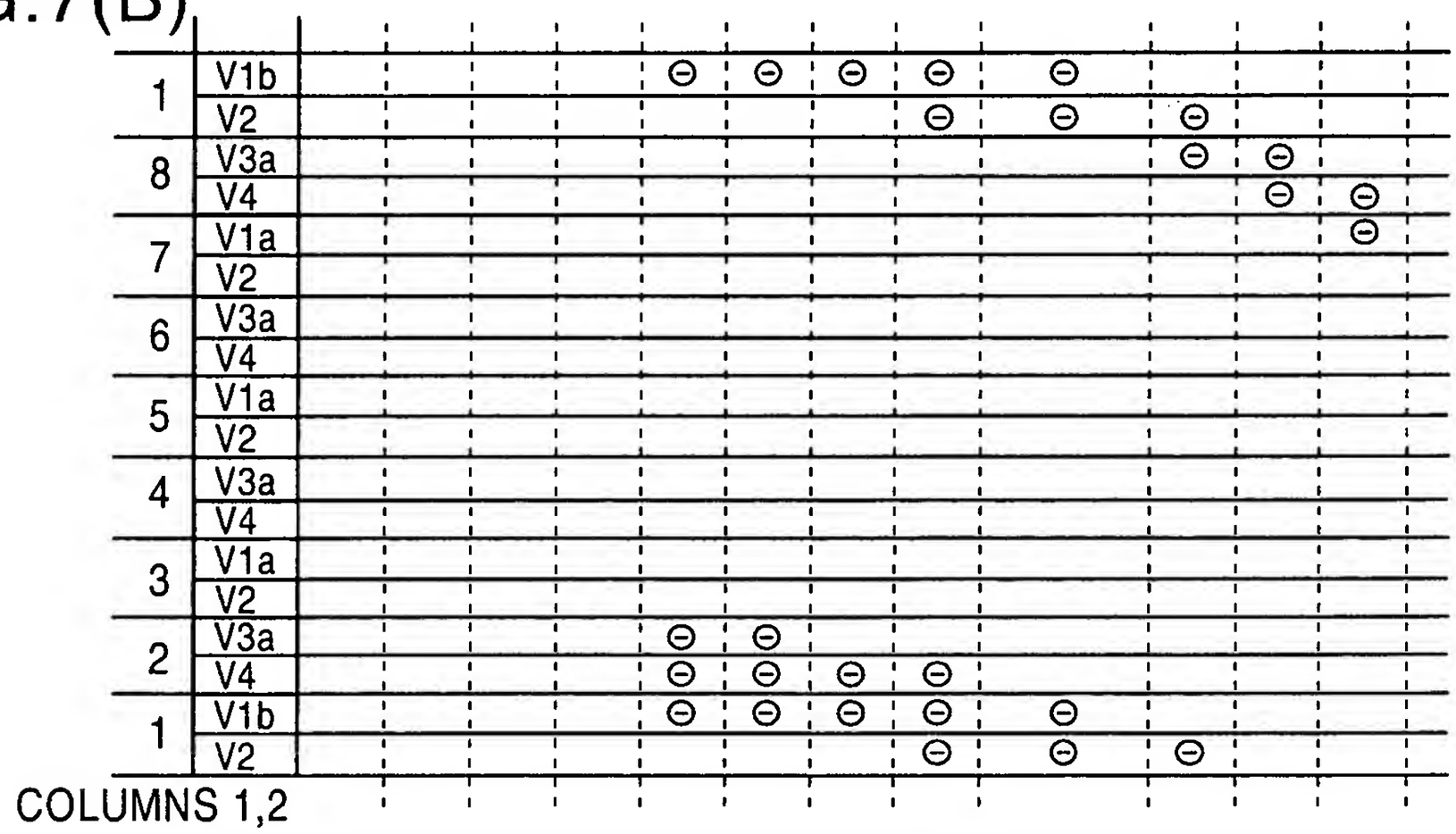
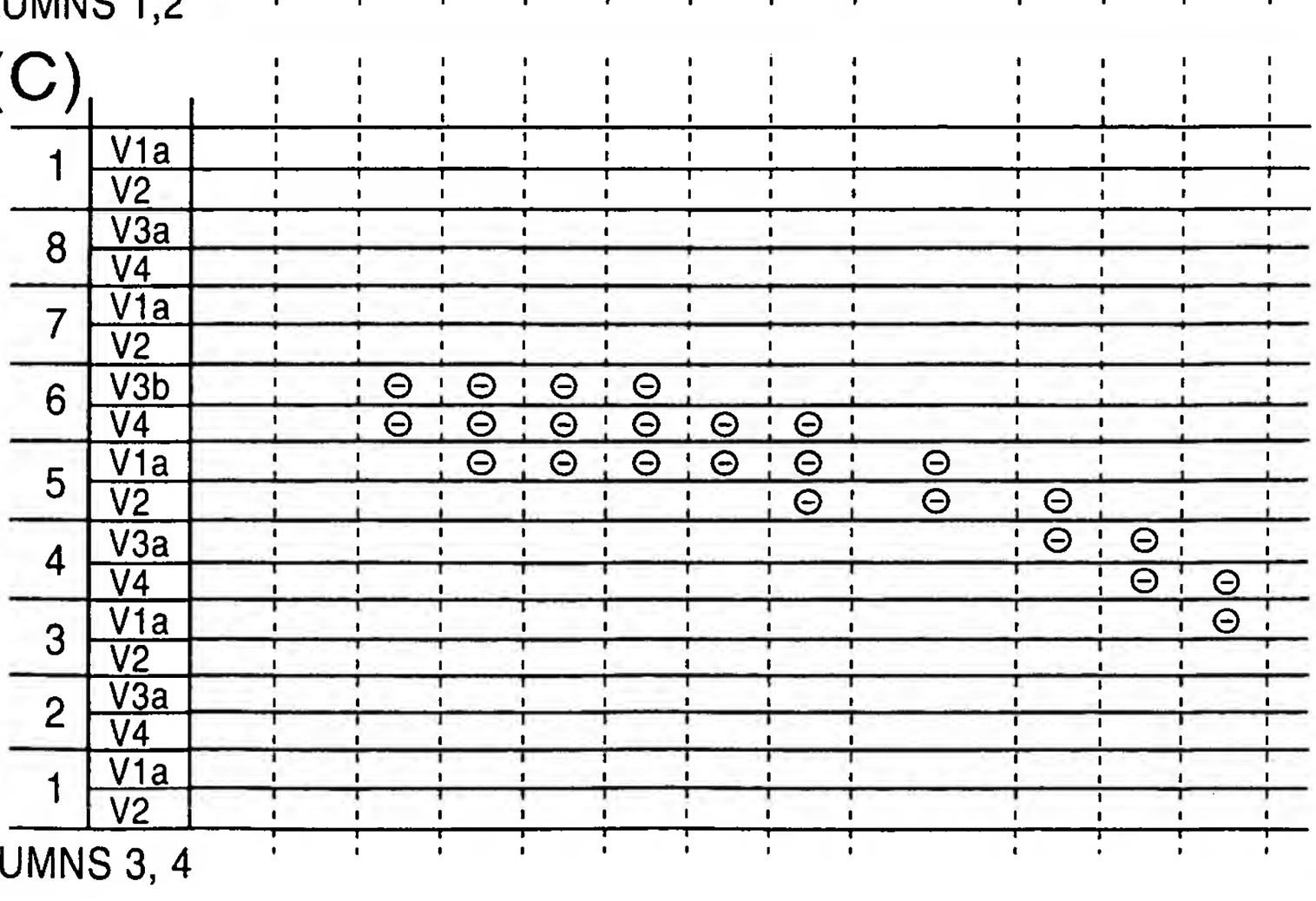


FIG.7(B)



COLUMNS 1,2

FIG.7(C)



COLUMNS 3, 4

FIG.8

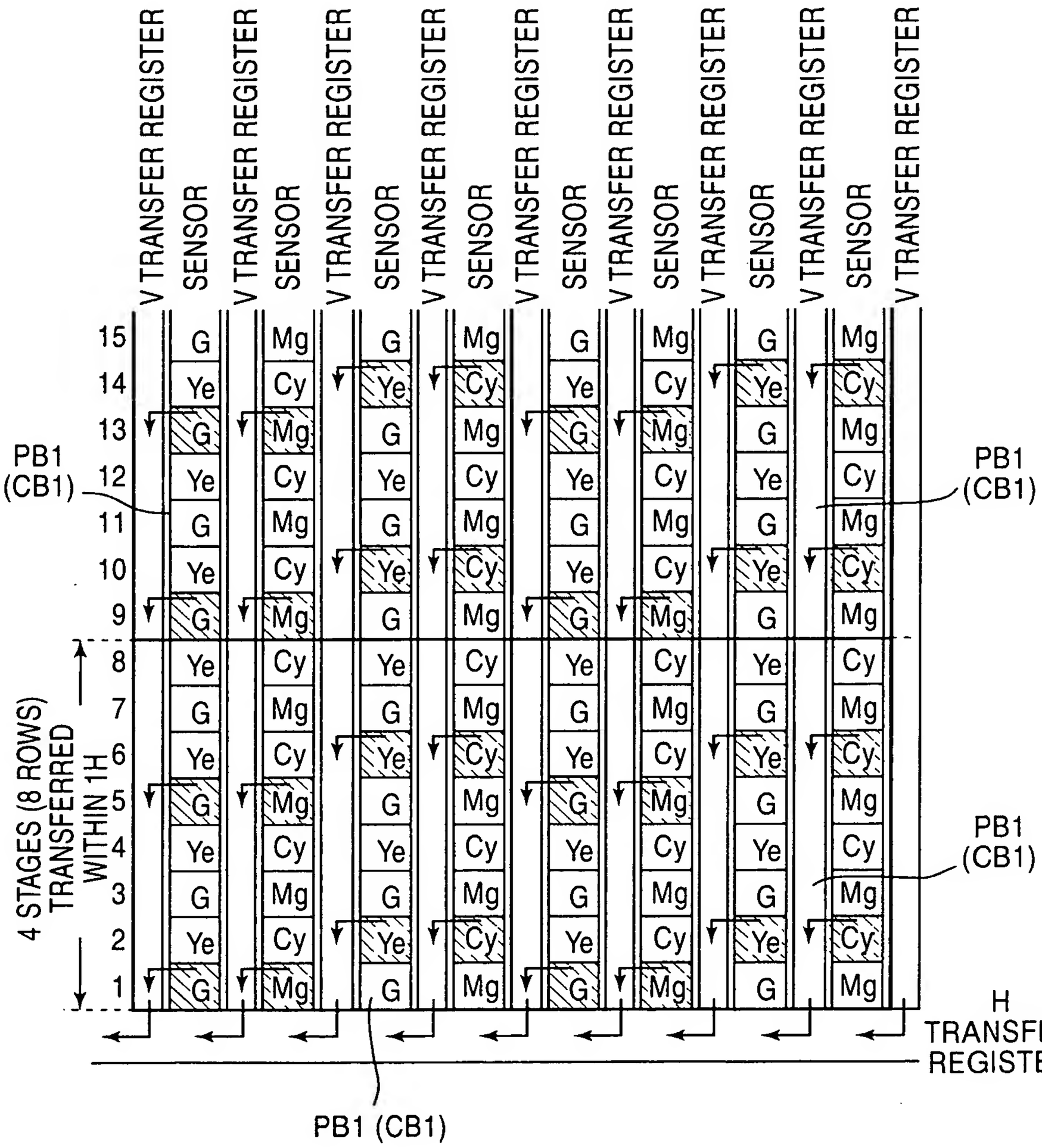

V TRANSFER REGISTER
SENSOR
G
Ye
Mg
Cy
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
PB1 (CB1)
4 STAGES (8 ROWS) TRANSFERRED WITHIN 1H
H TRANSFER REGISTER

FIG.9(A)

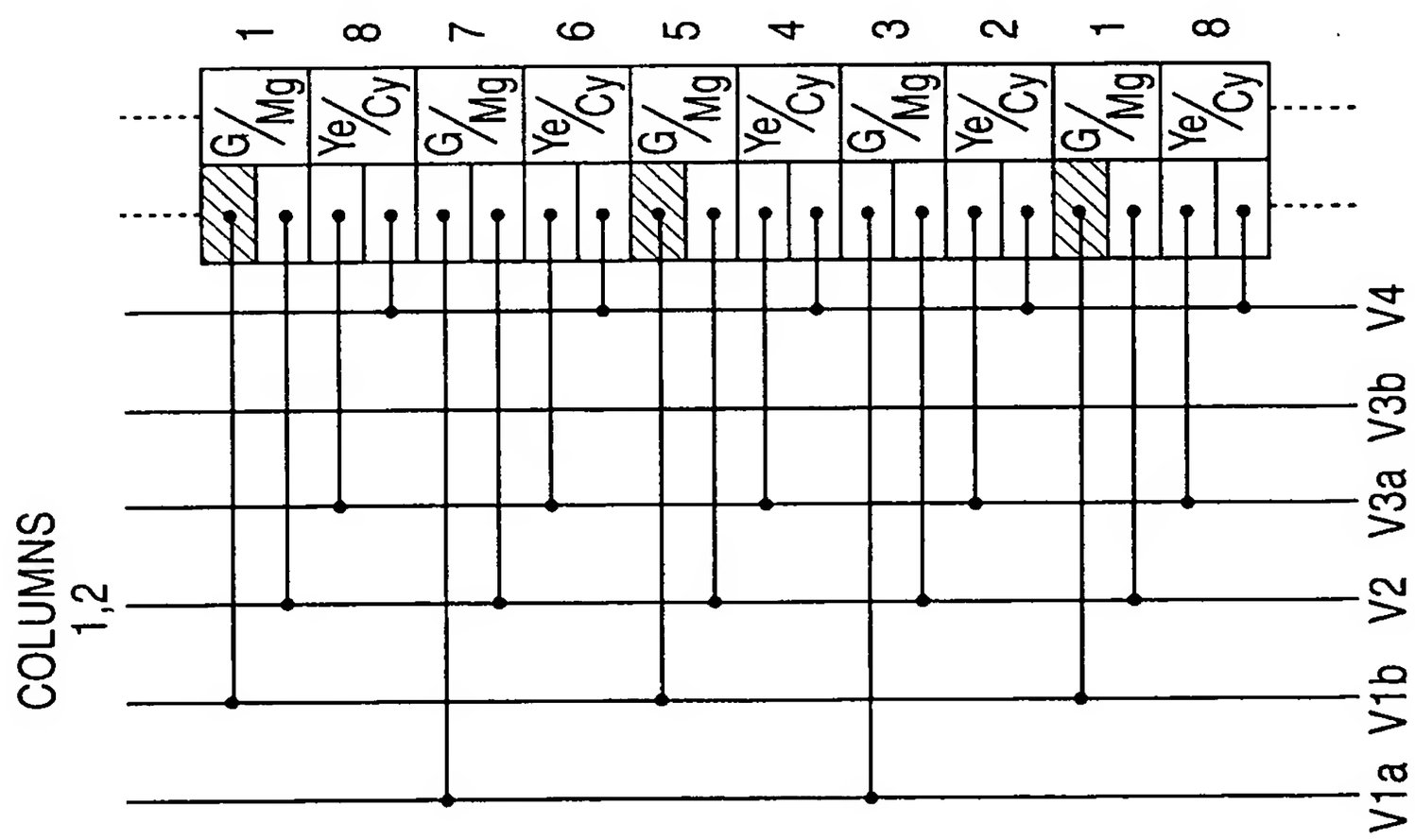

COLUMNS 1,2
1
8
7
6
5
4
3
2
1
8
G/Mg
Ye/Cy
V1a
V1b
V2
V3a
V3b
V4

FIG.9(B)

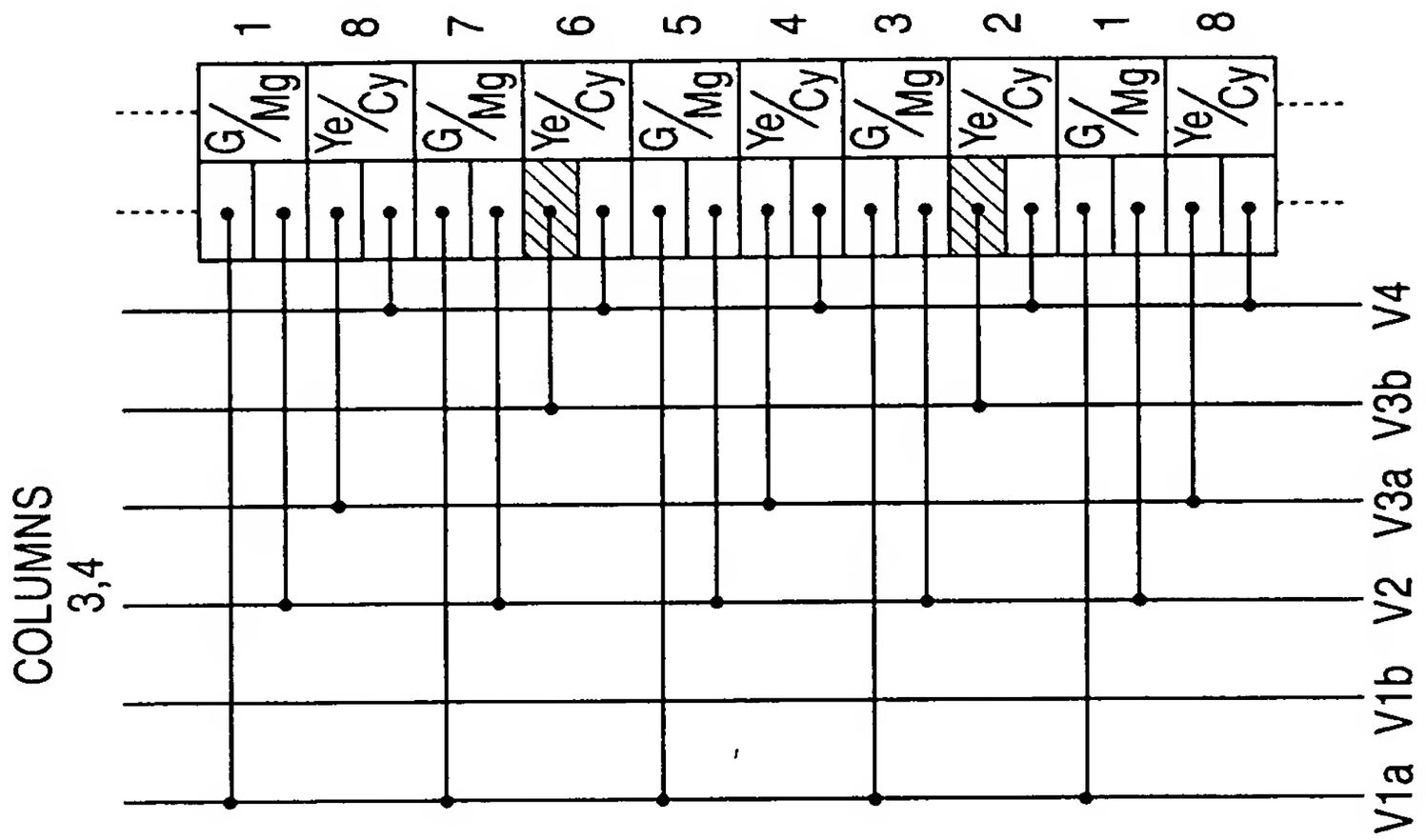

COLUMNS 3,4
1
8
7
6
5
4
3
2
1
8
G/Mg
Ye/Cy
V1a
V1b
V2
V3a
V3b
V4

FIG.10(A)

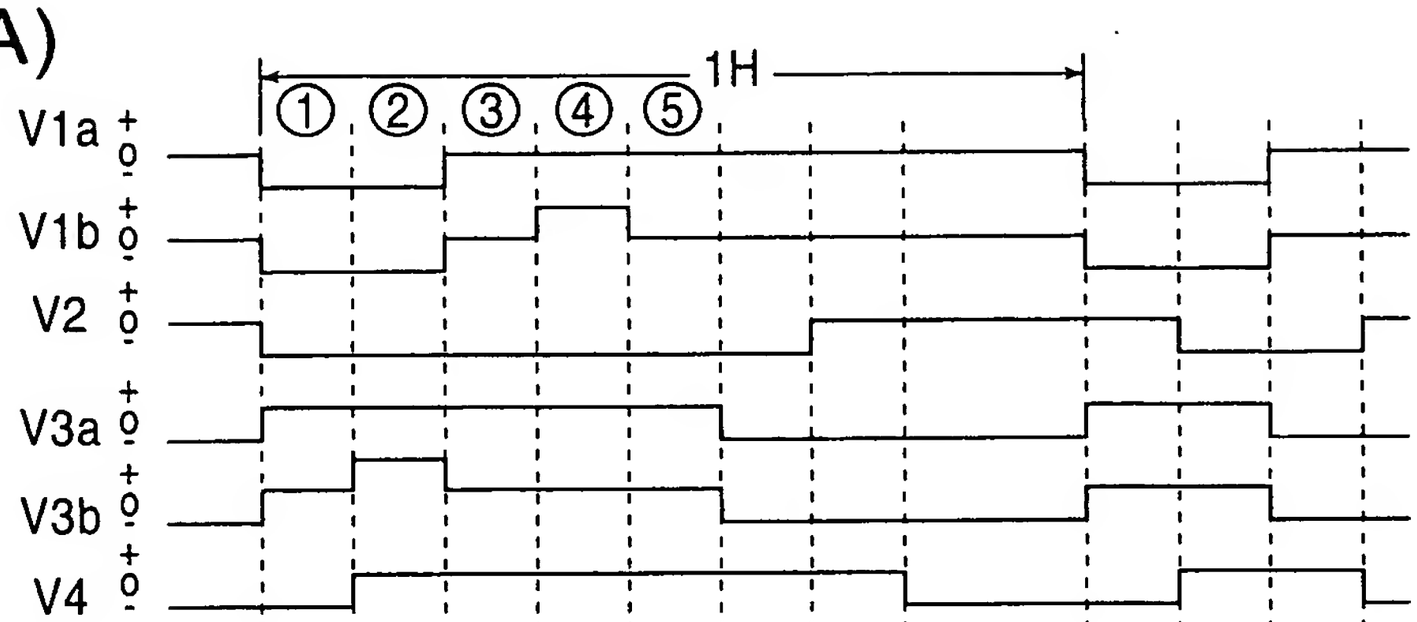
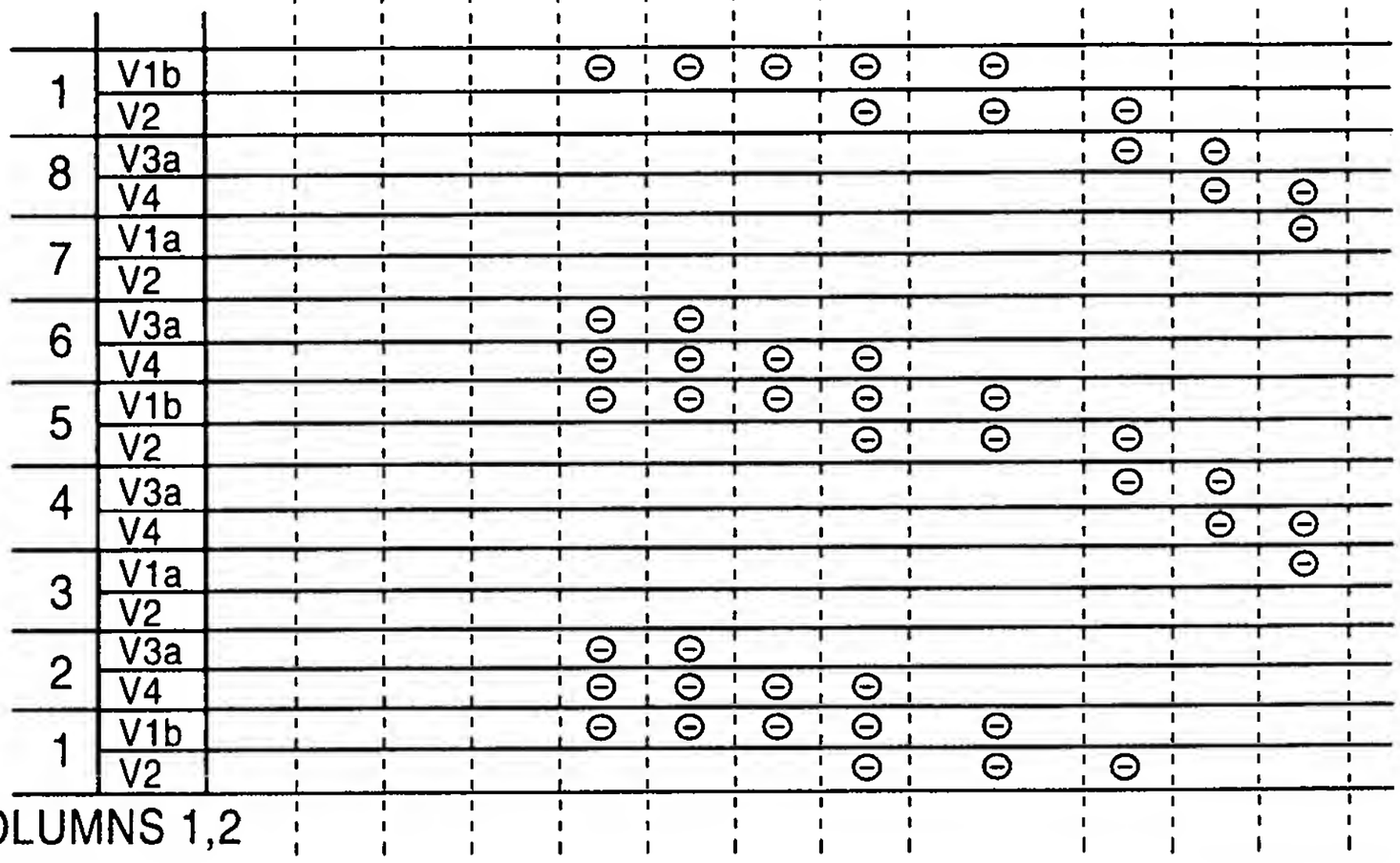
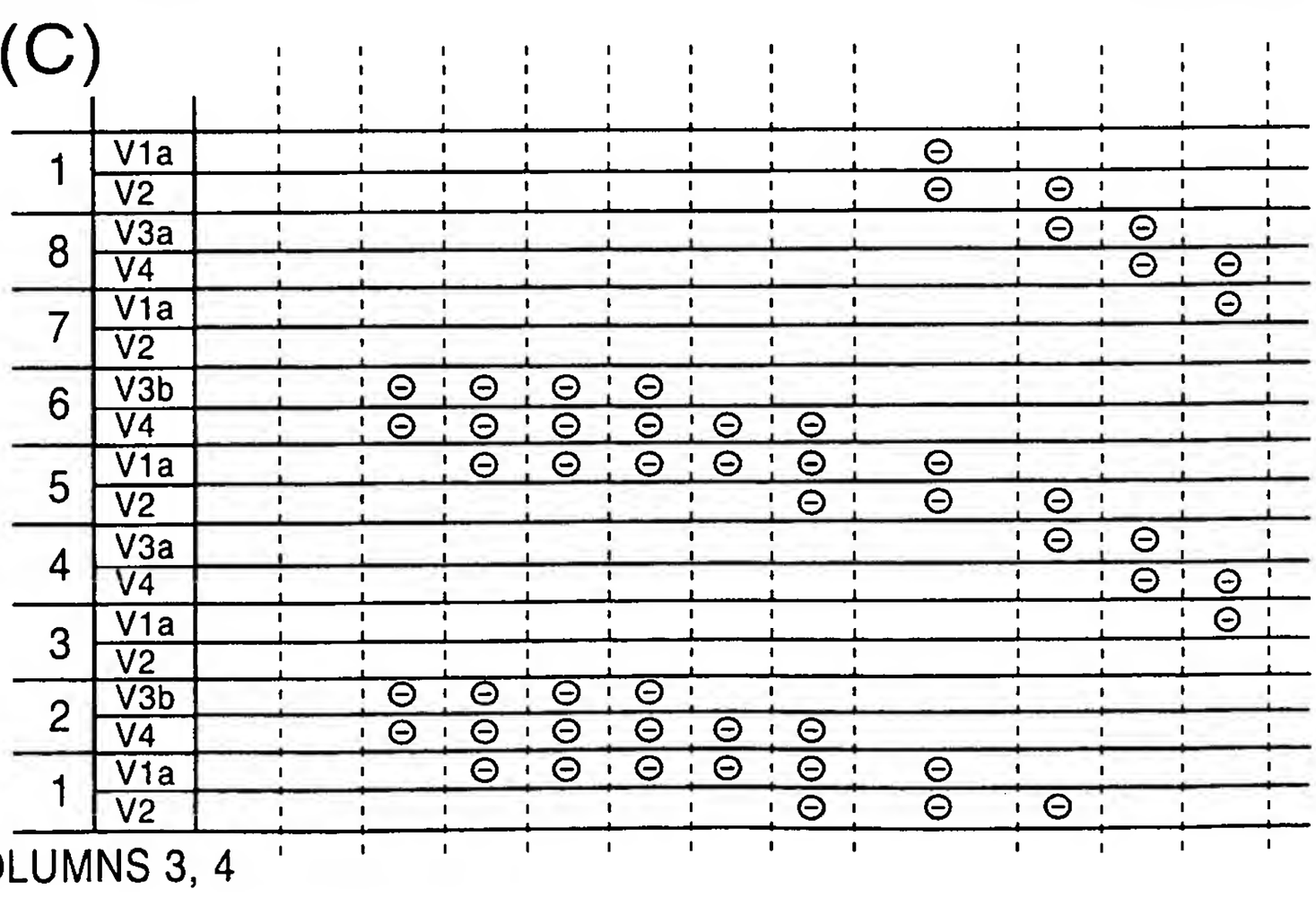


FIG.10(B)



COLUMNS 1,2

FIG.10(C)



COLUMNS 3, 4

FIG.11

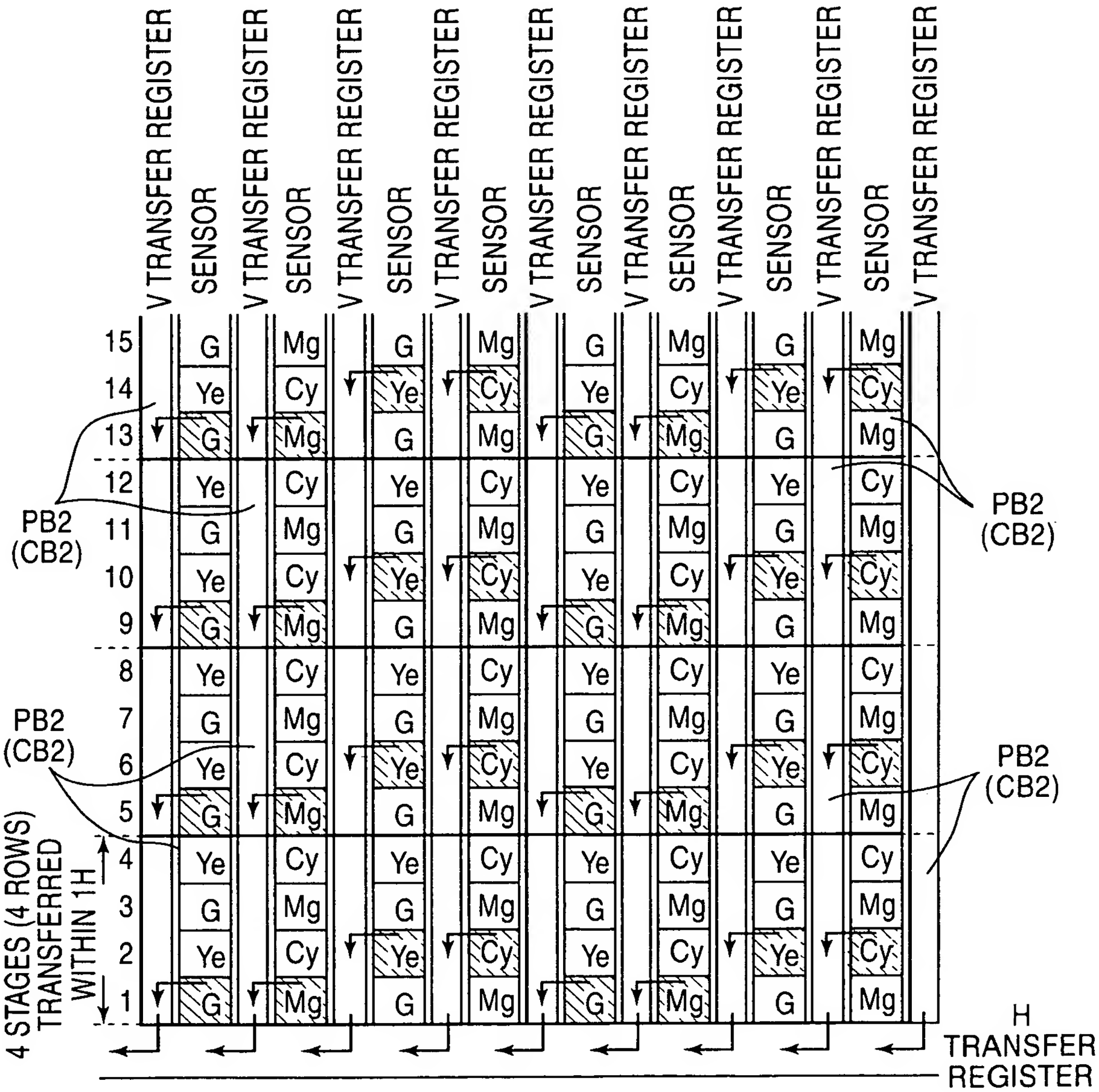

V TRANSFER REGISTER
SENSOR
G
Ye
Cy
Mg
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
PB2 (CB2)
4 STAGES (4 ROWS) TRANSFERRED WITHIN 1H
H TRANSFER REGISTER

FIG.12(A)

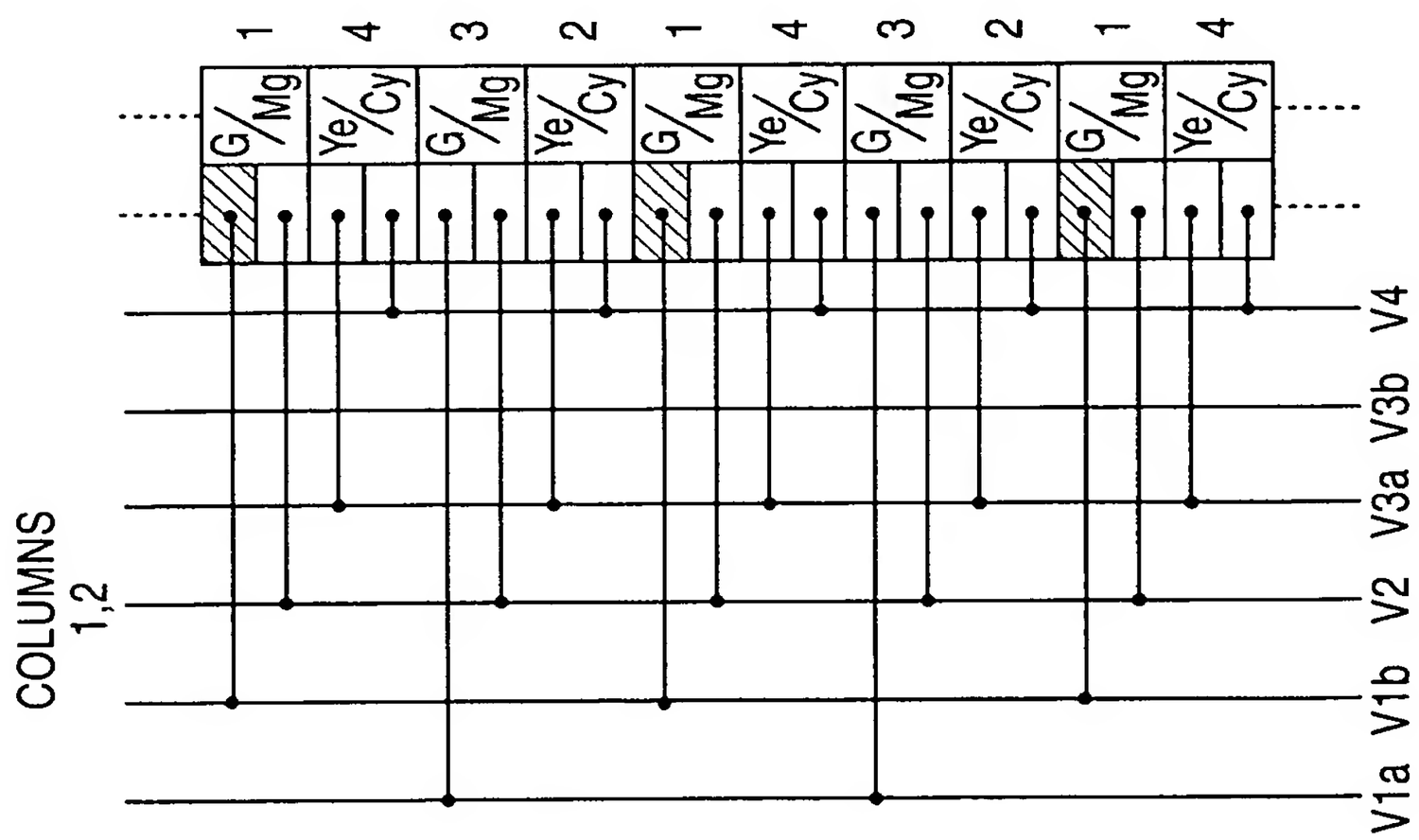


FIG.12(B)

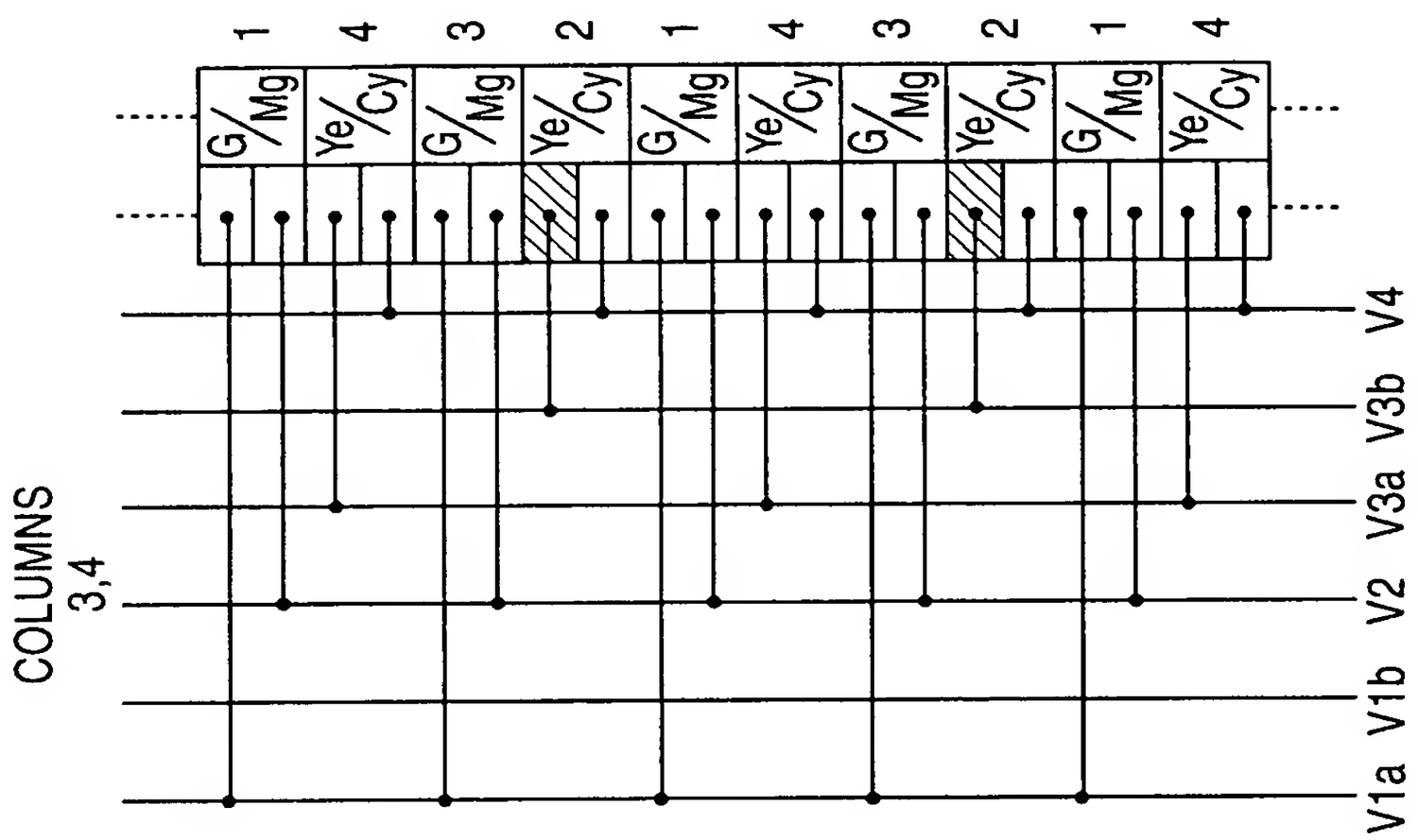


FIG.13(A)

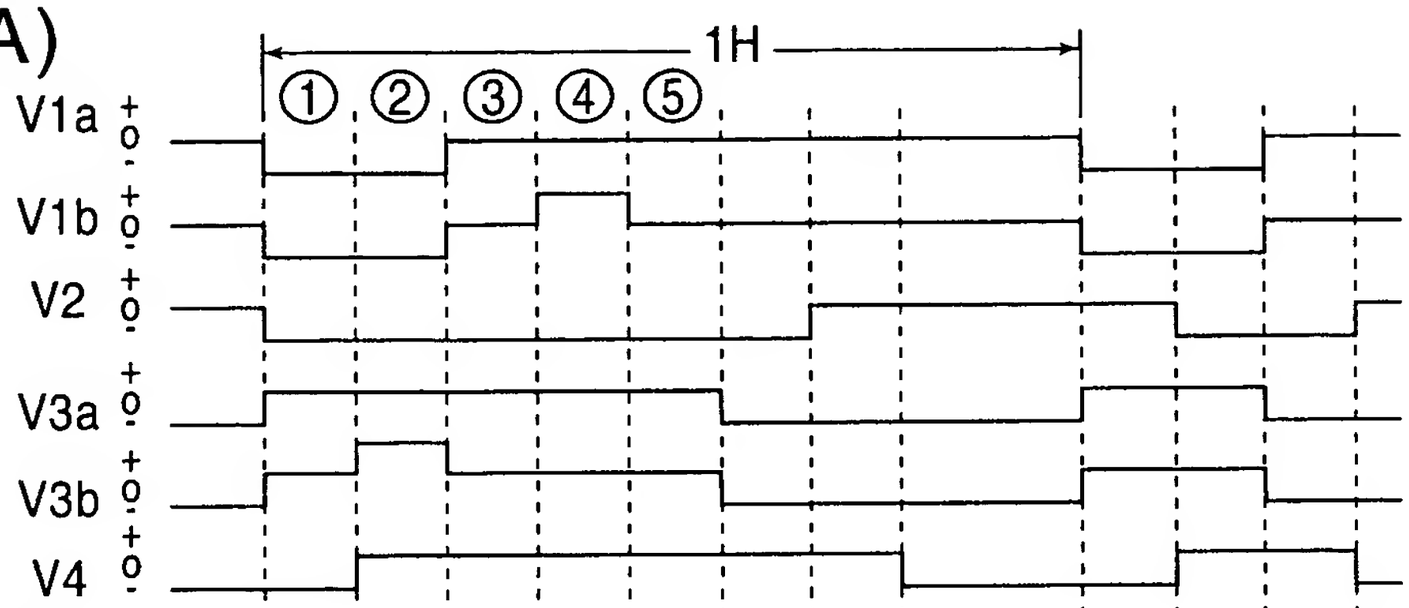
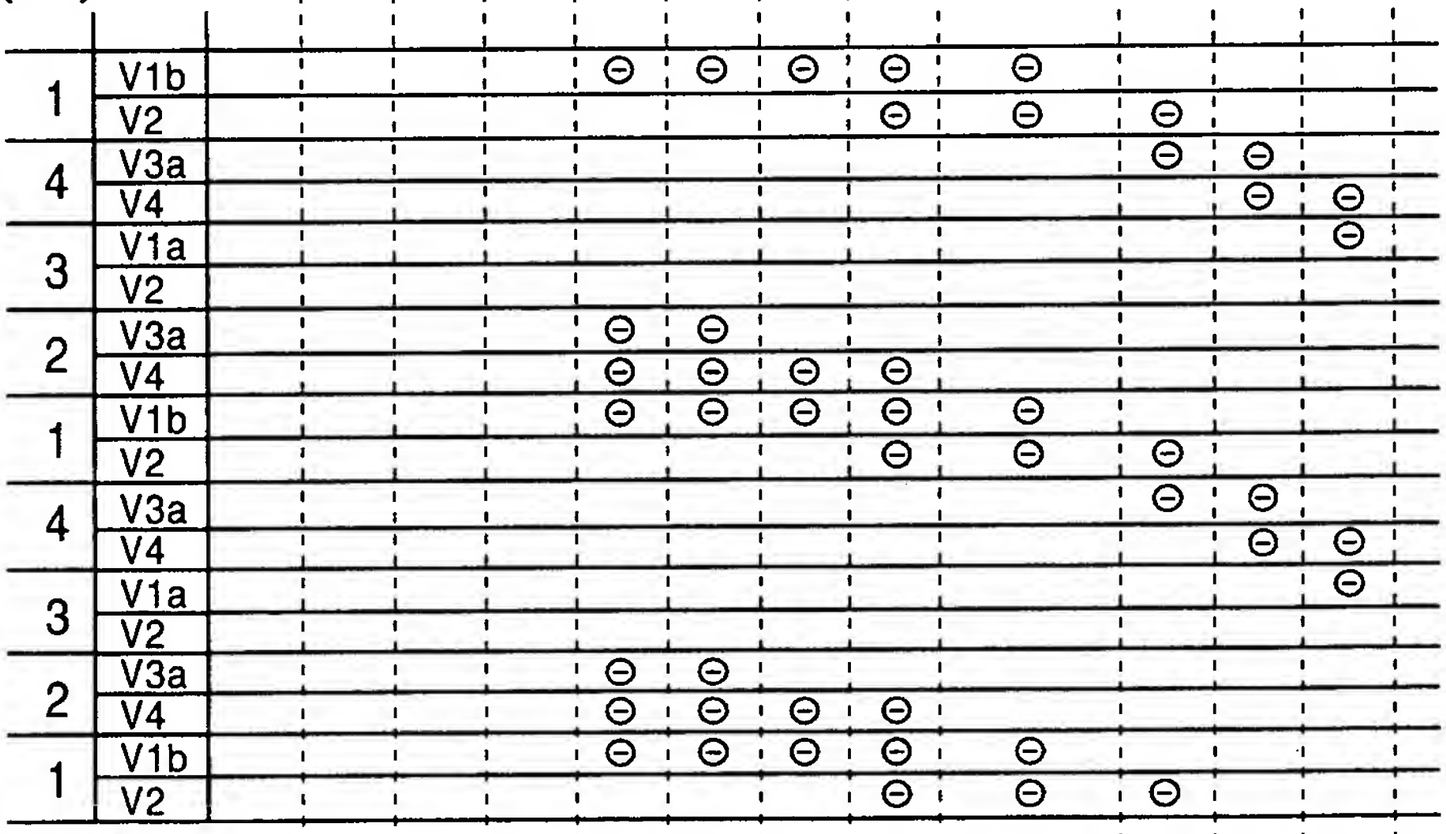
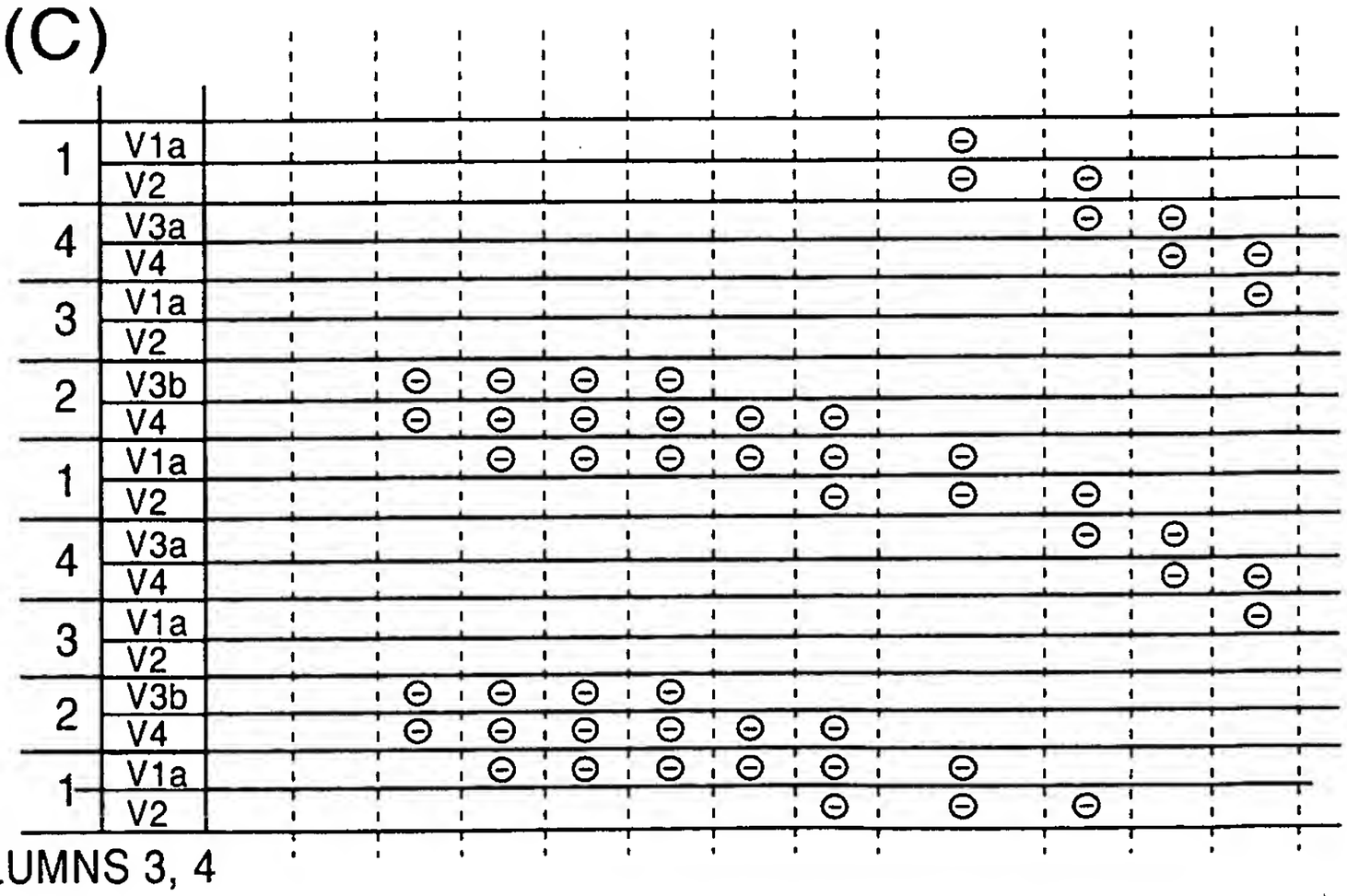


FIG.13(B)



COLUMNS 1,2

FIG.13(C)



COLUMNS 3, 4

FIG.14

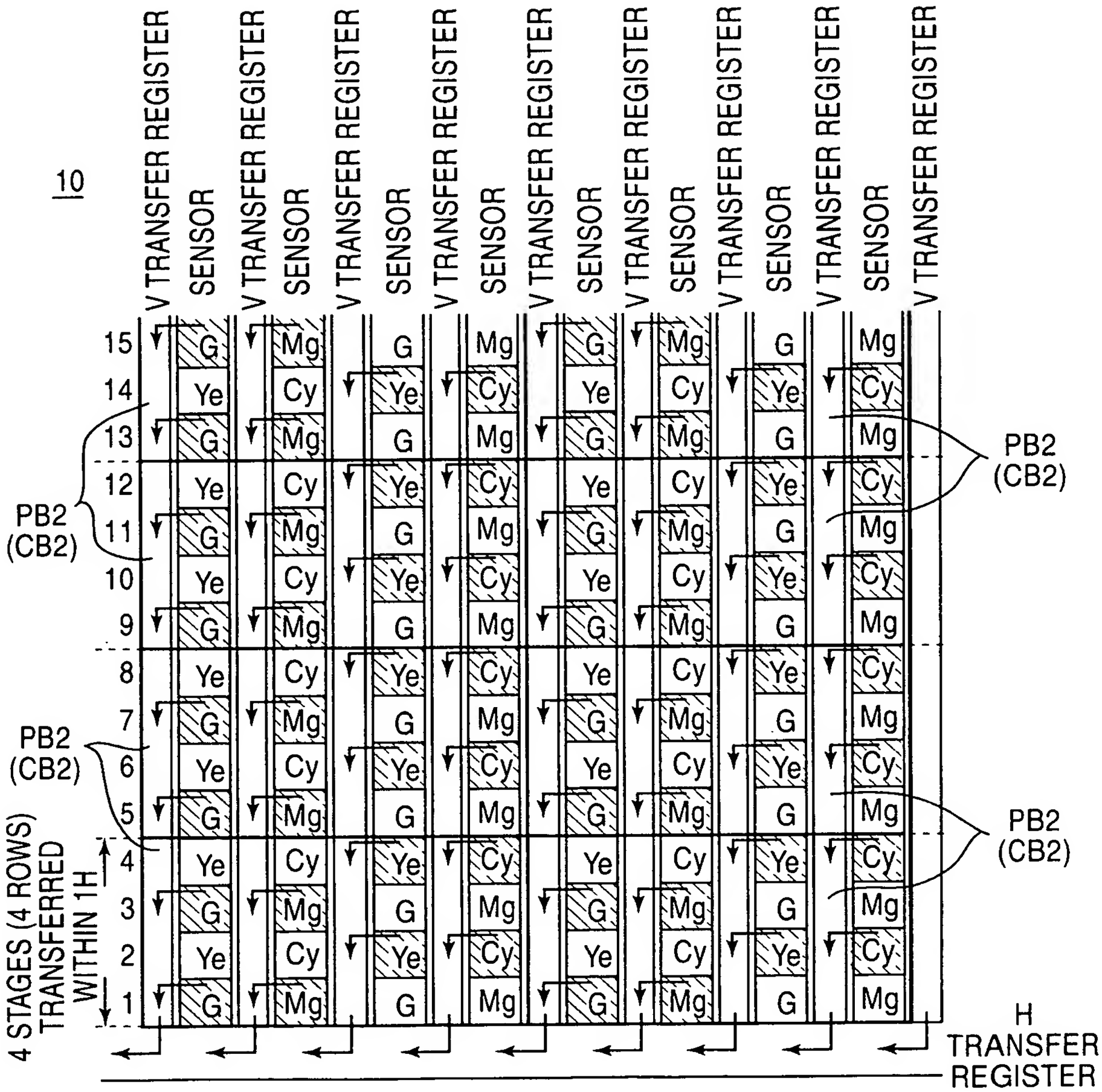

10
V TRANSFER
SENSOR
G
Ye
Mg
Cy
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
PB2
(CB2)
4 STAGES (4 ROWS) TRANSFERRED WITHIN 1H
H TRANSFER REGISTER

FIG.15(A)

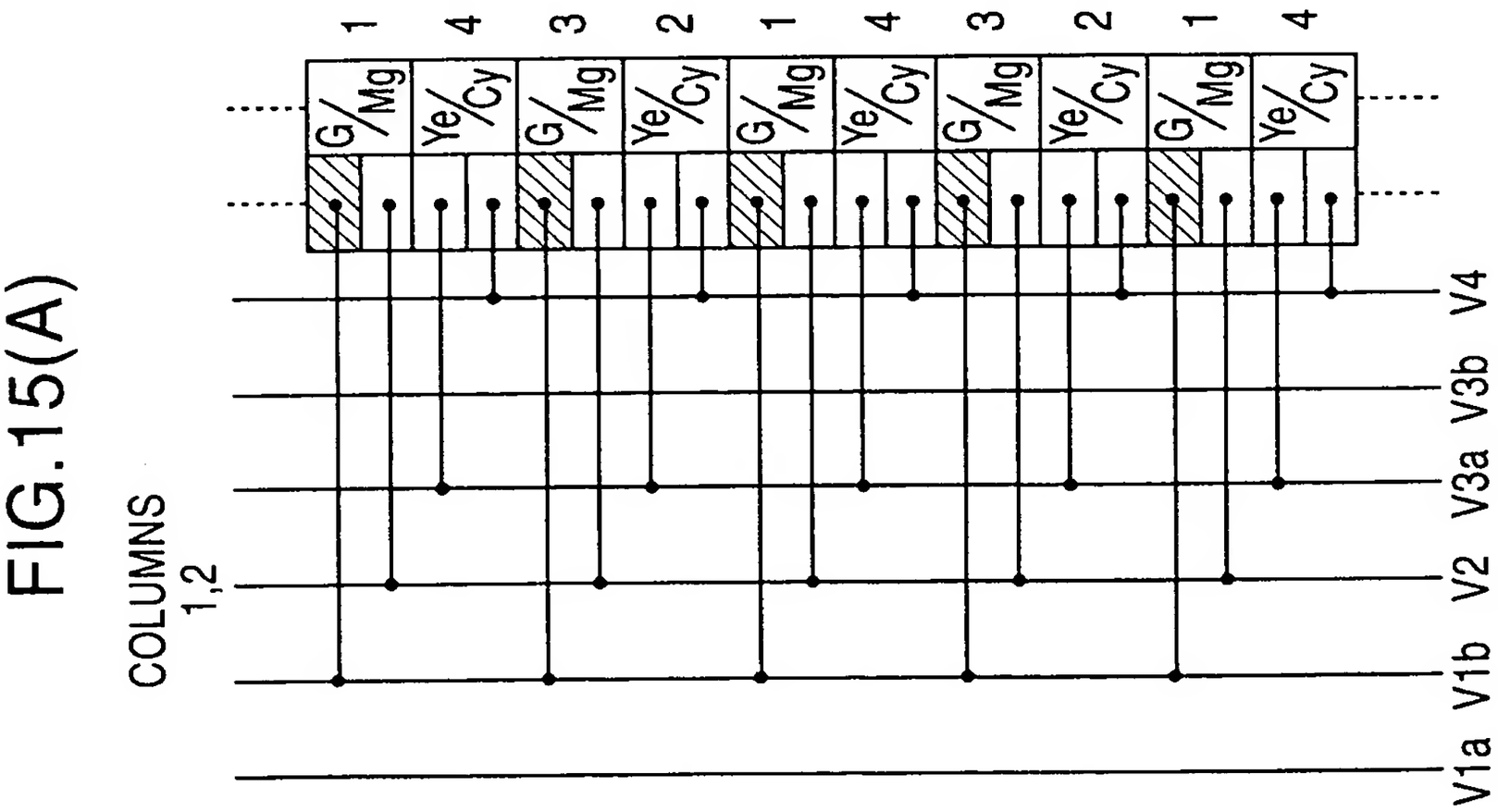


FIG.15(B)

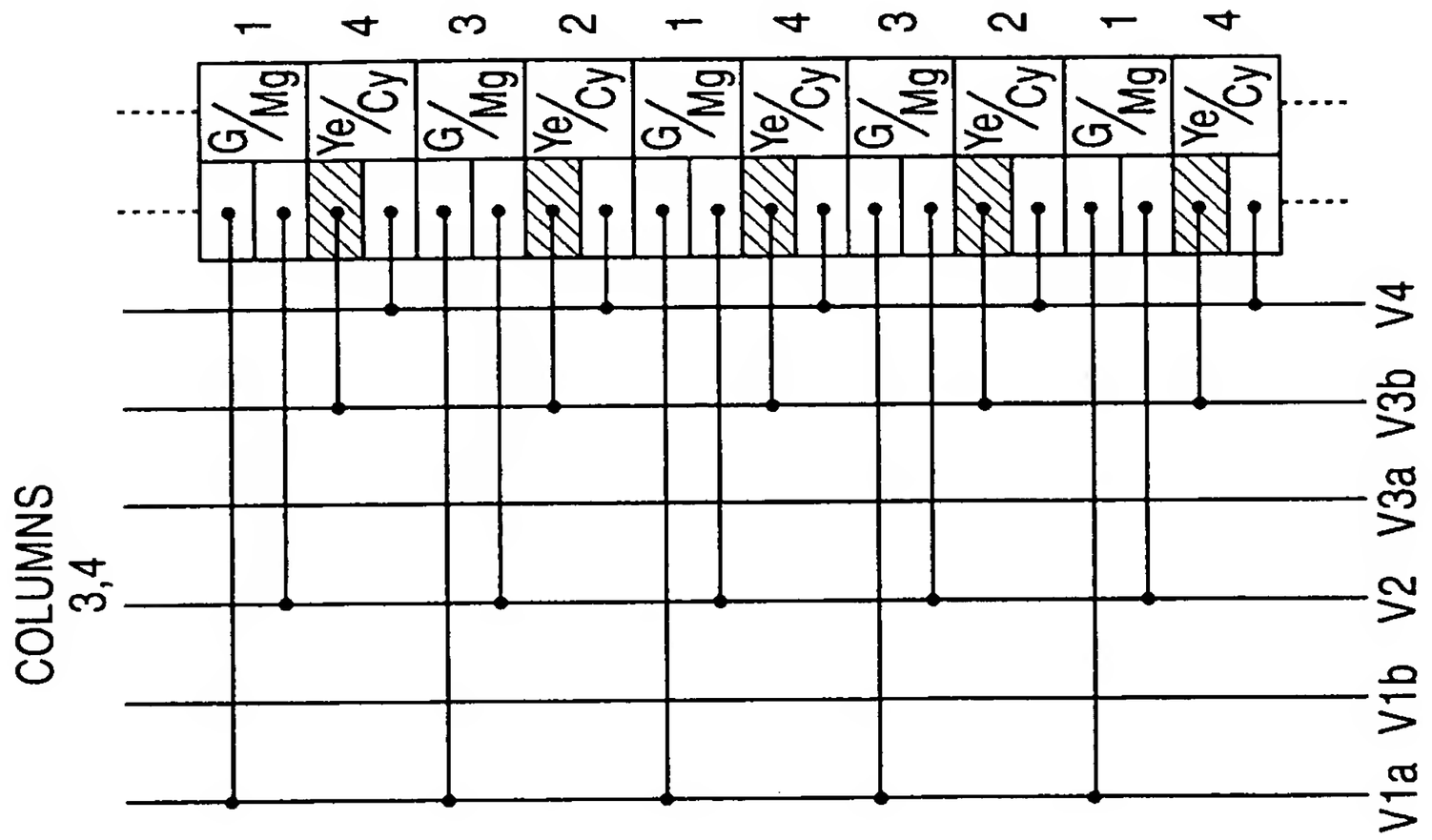


FIG.16(A)

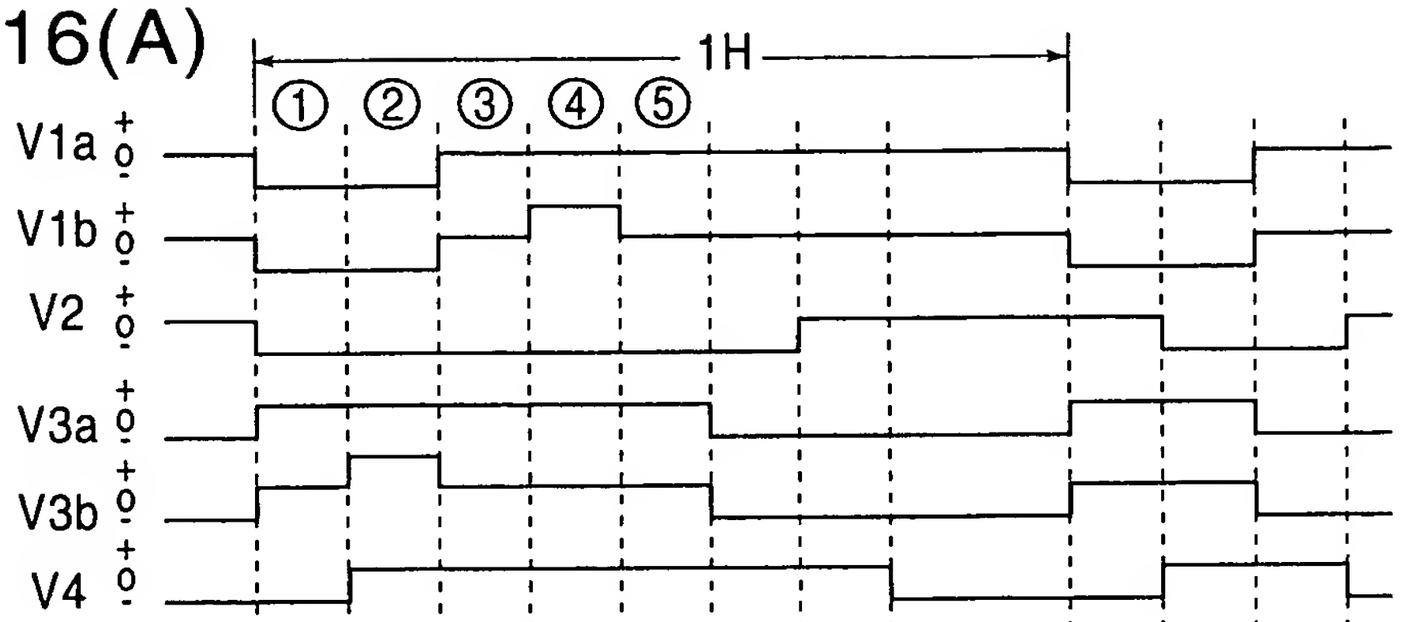
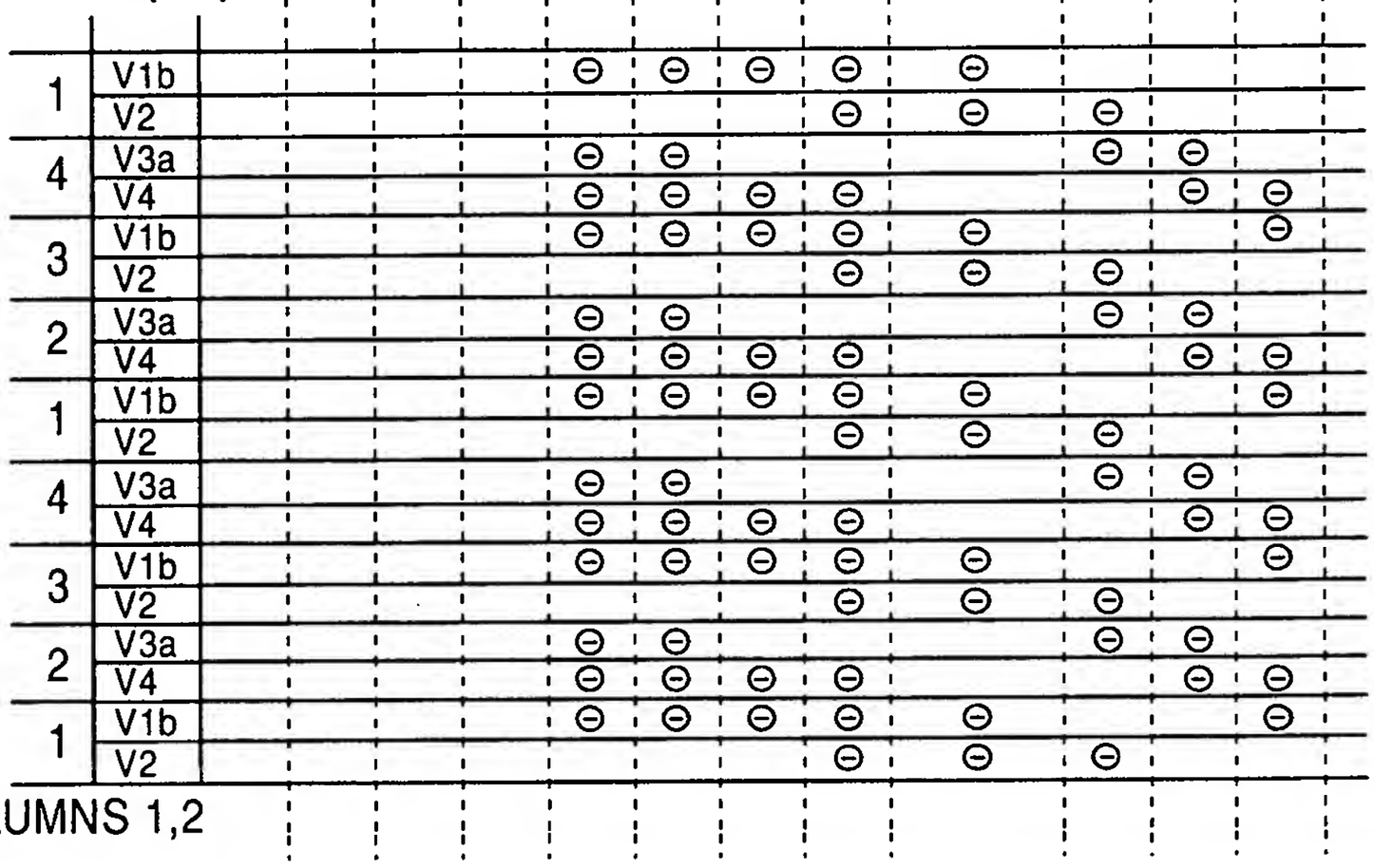
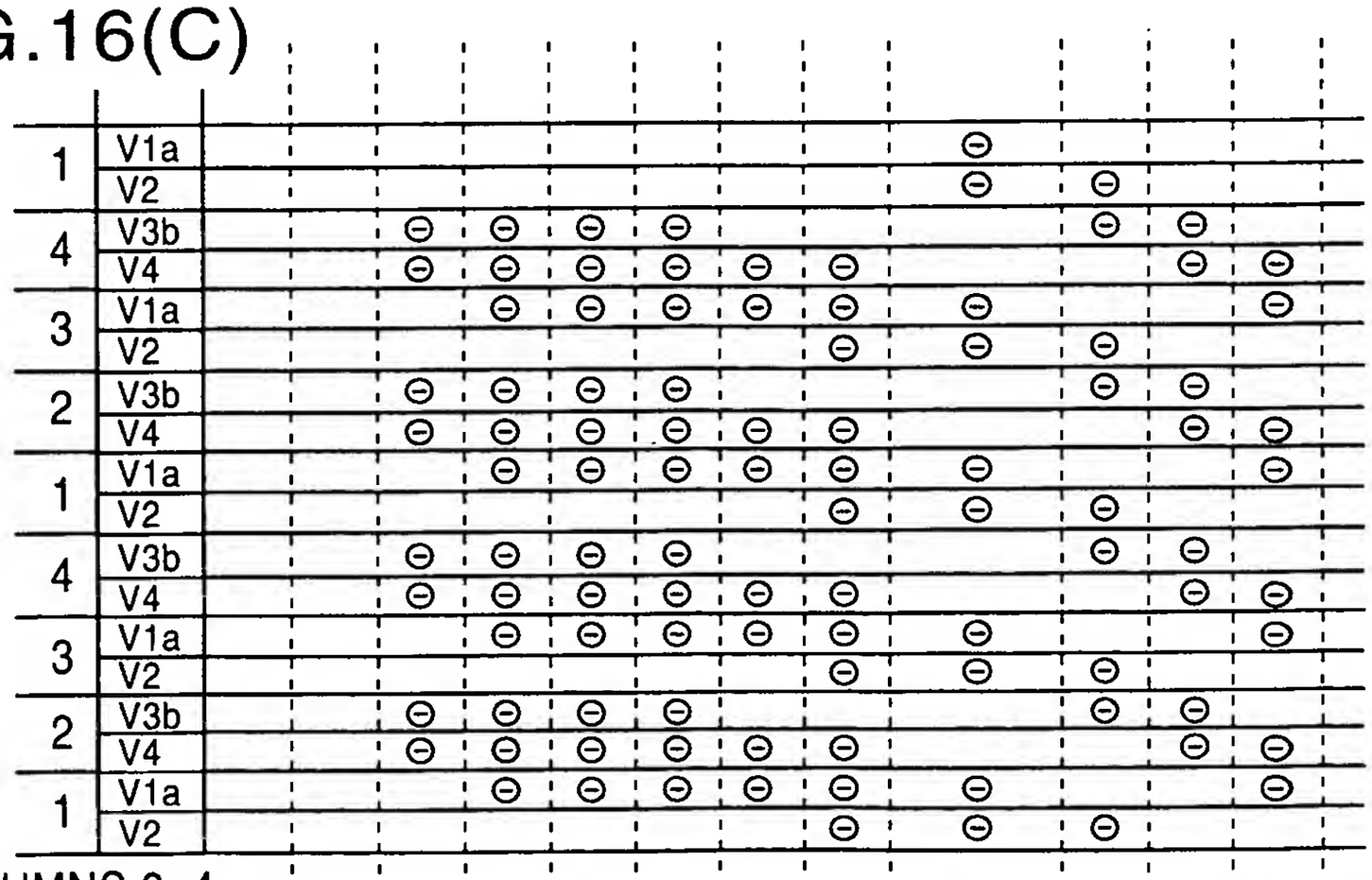


FIG.16(B)



COLUMNS 1,2

FIG.16(C)



COLUMNS 3, 4

FIG.17

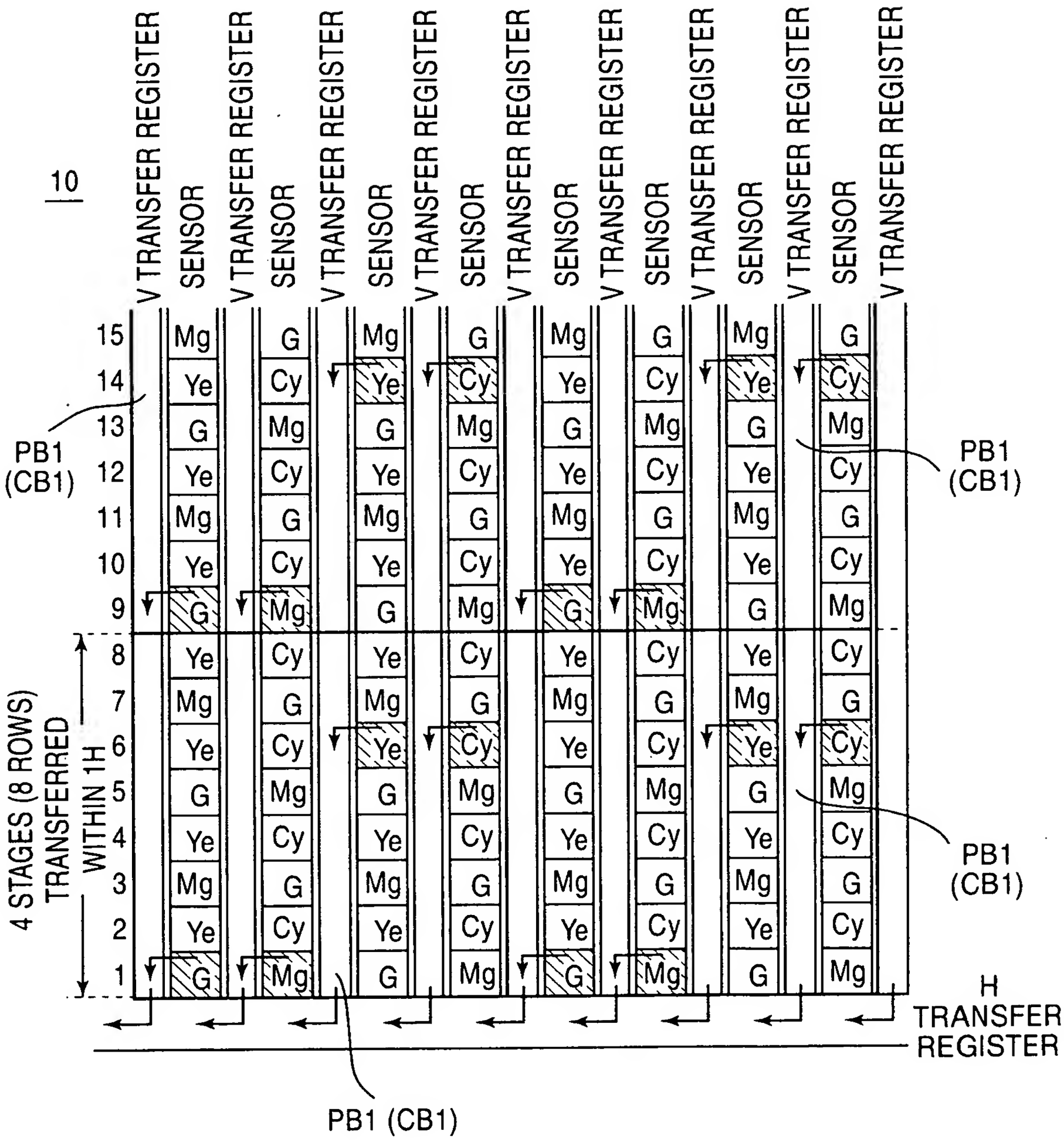

10
V TRANSFER
SENSOR
REGISTER
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
Mg
Ye
G
Cy
PB1
(CB1)
4 STAGES (8 ROWS)
TRANSFERRED
WITHIN 1H
H
TRANSFER
REGISTER

FIG.18(A)

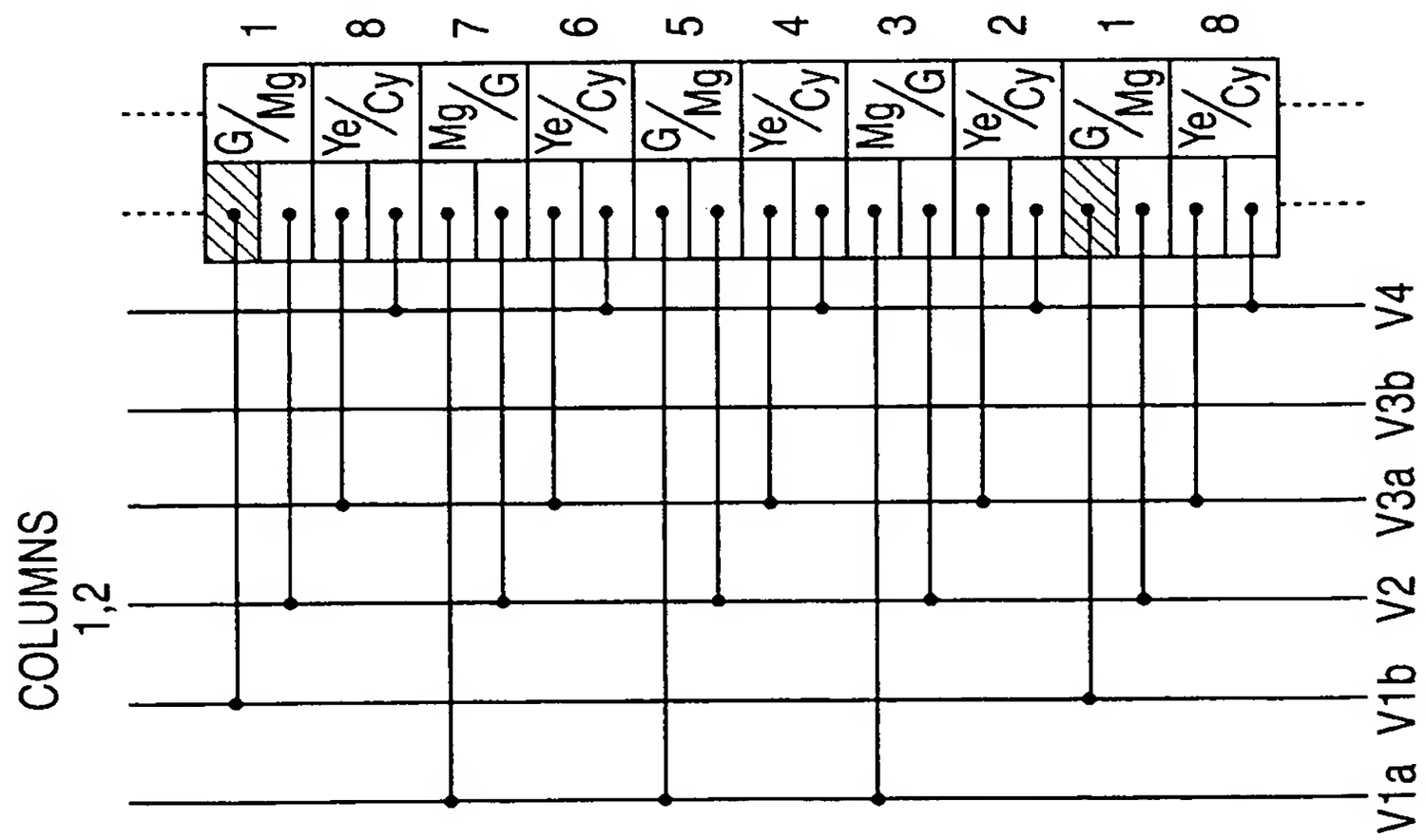


FIG.18(B)

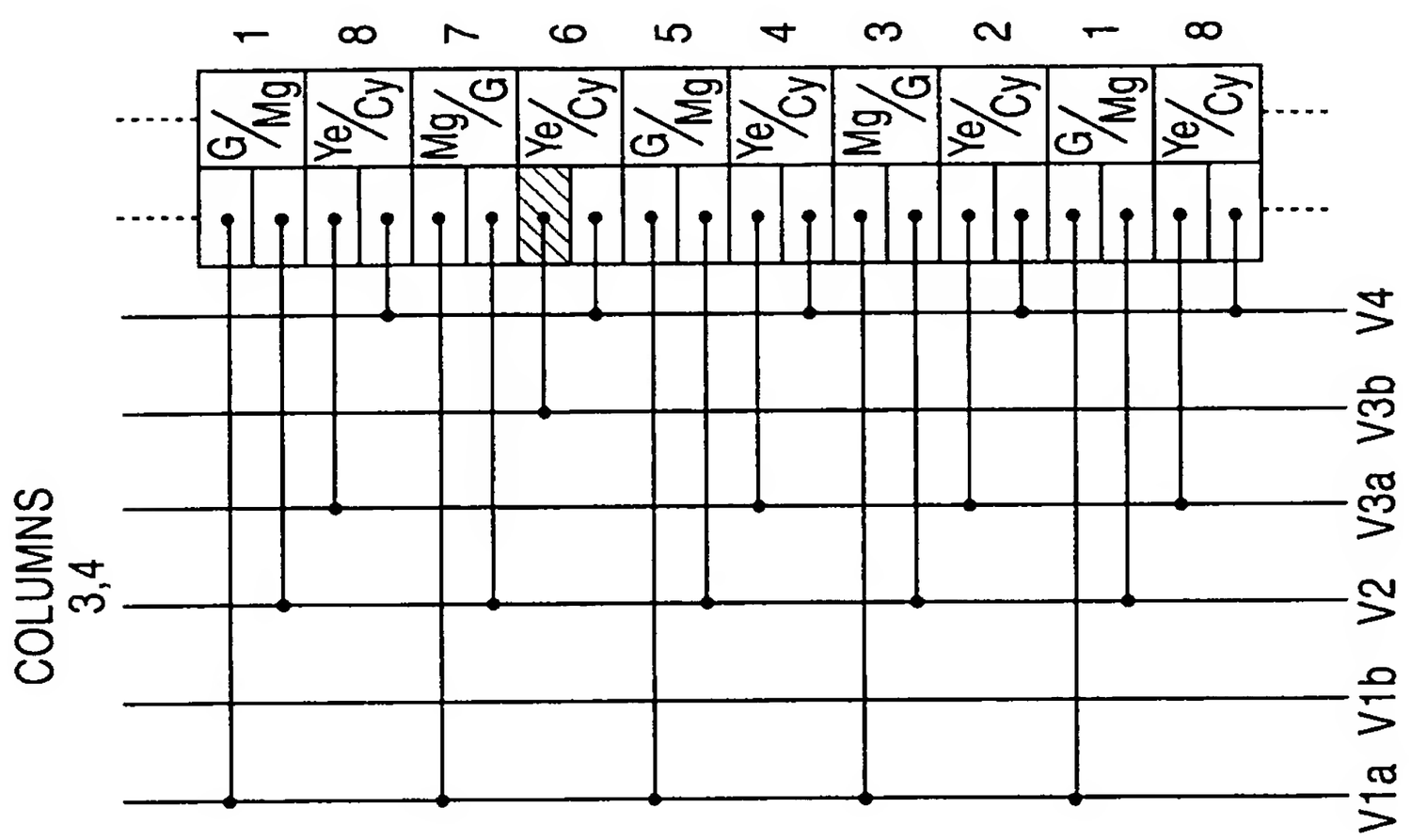


FIG.19(A)

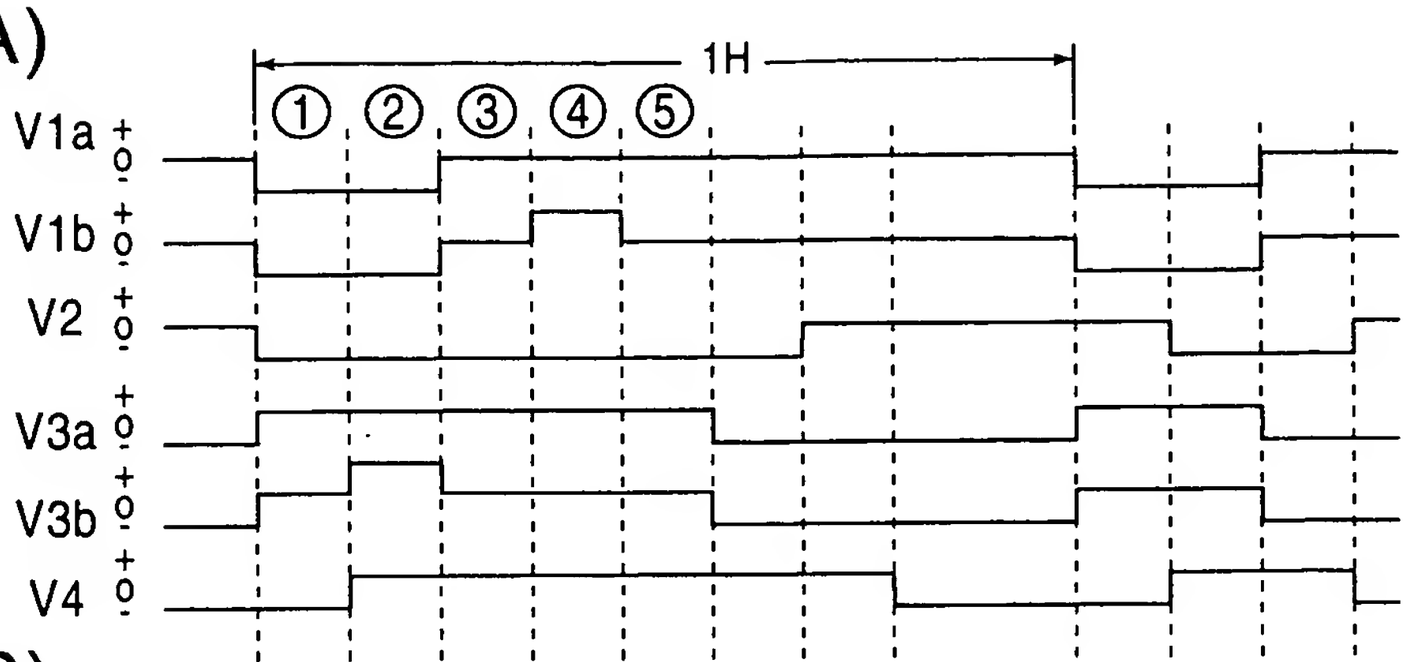
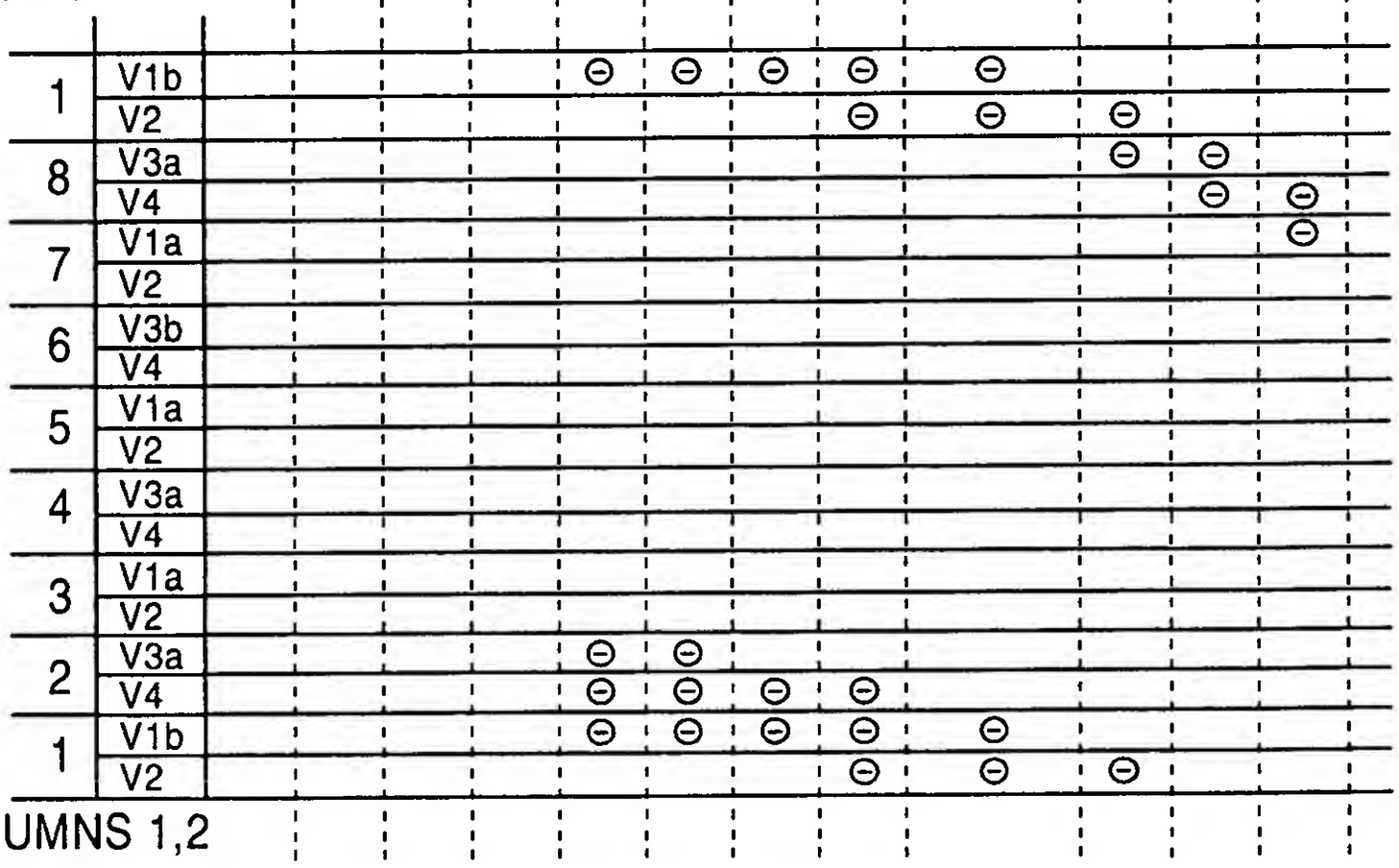
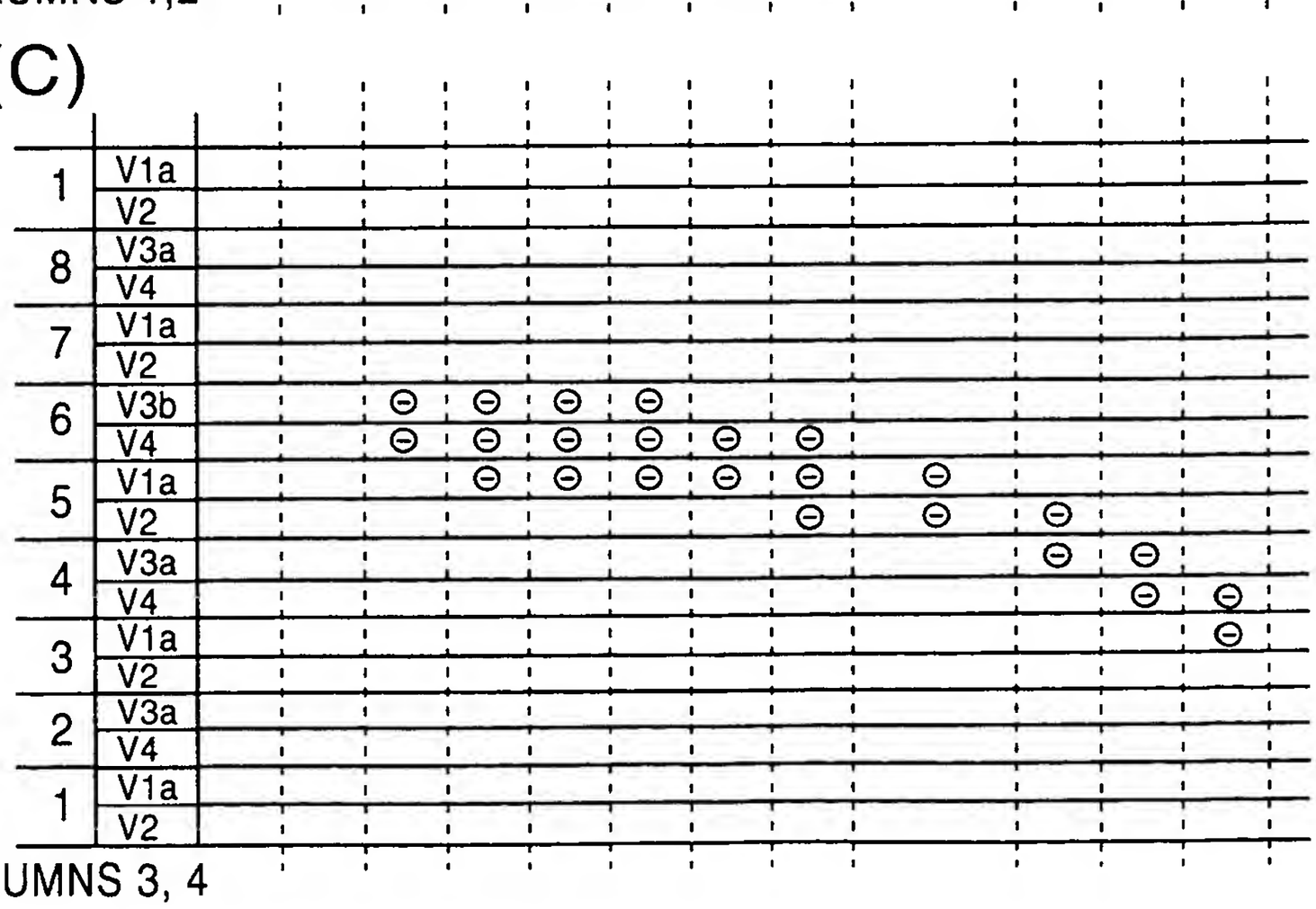


FIG.19(B)



COLUMNS 1,2

FIG.19(C)



COLUMNS 3, 4

FIG.20

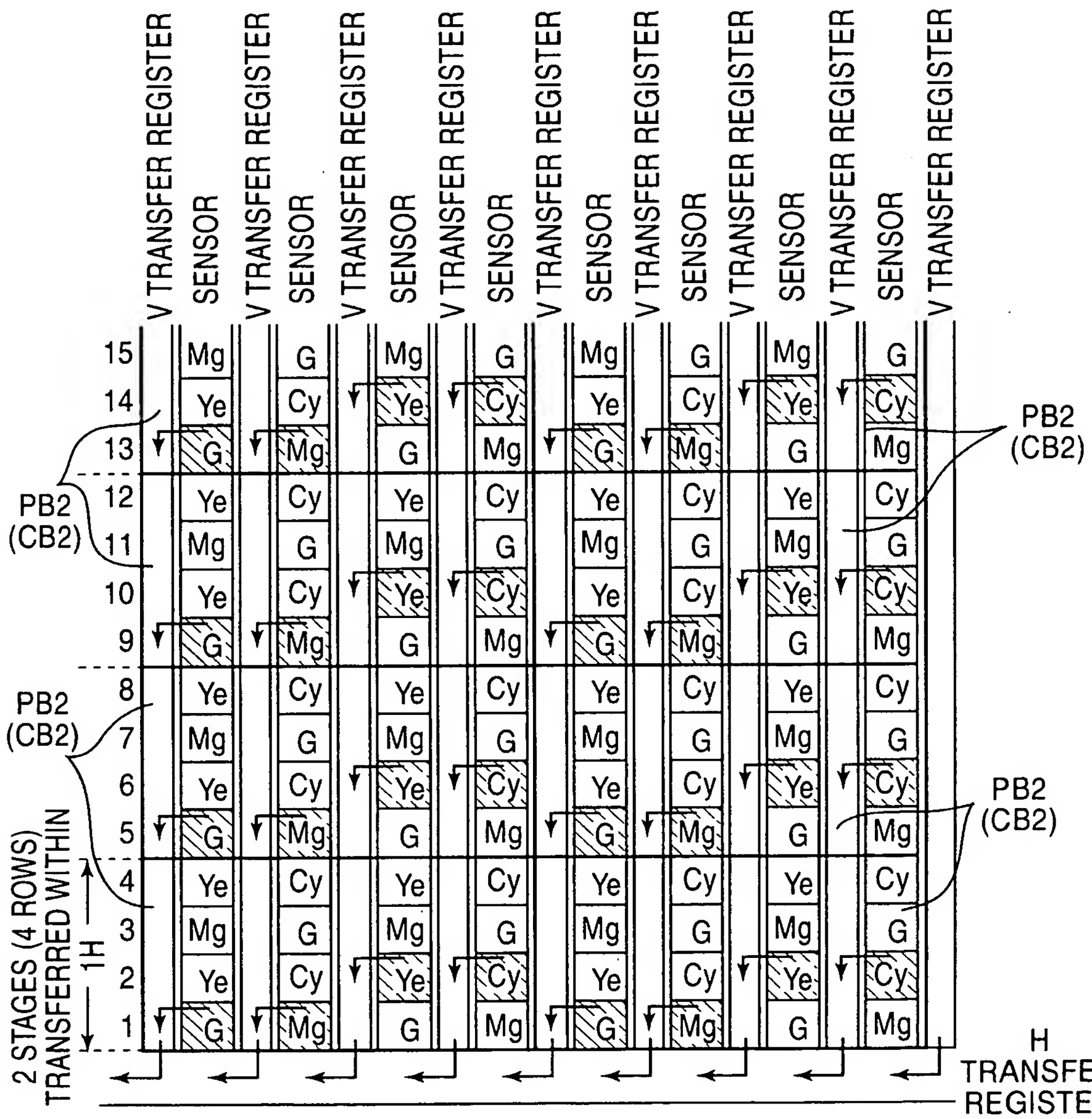

V TRANSFER REGISTER
SENSOR
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
Mg
Ye
G
Cy
PB2 (CB2)
2 STAGES (4 ROWS) TRANSFERRED WITHIN 1H
H TRANSFER REGISTER

FIG.21(A)

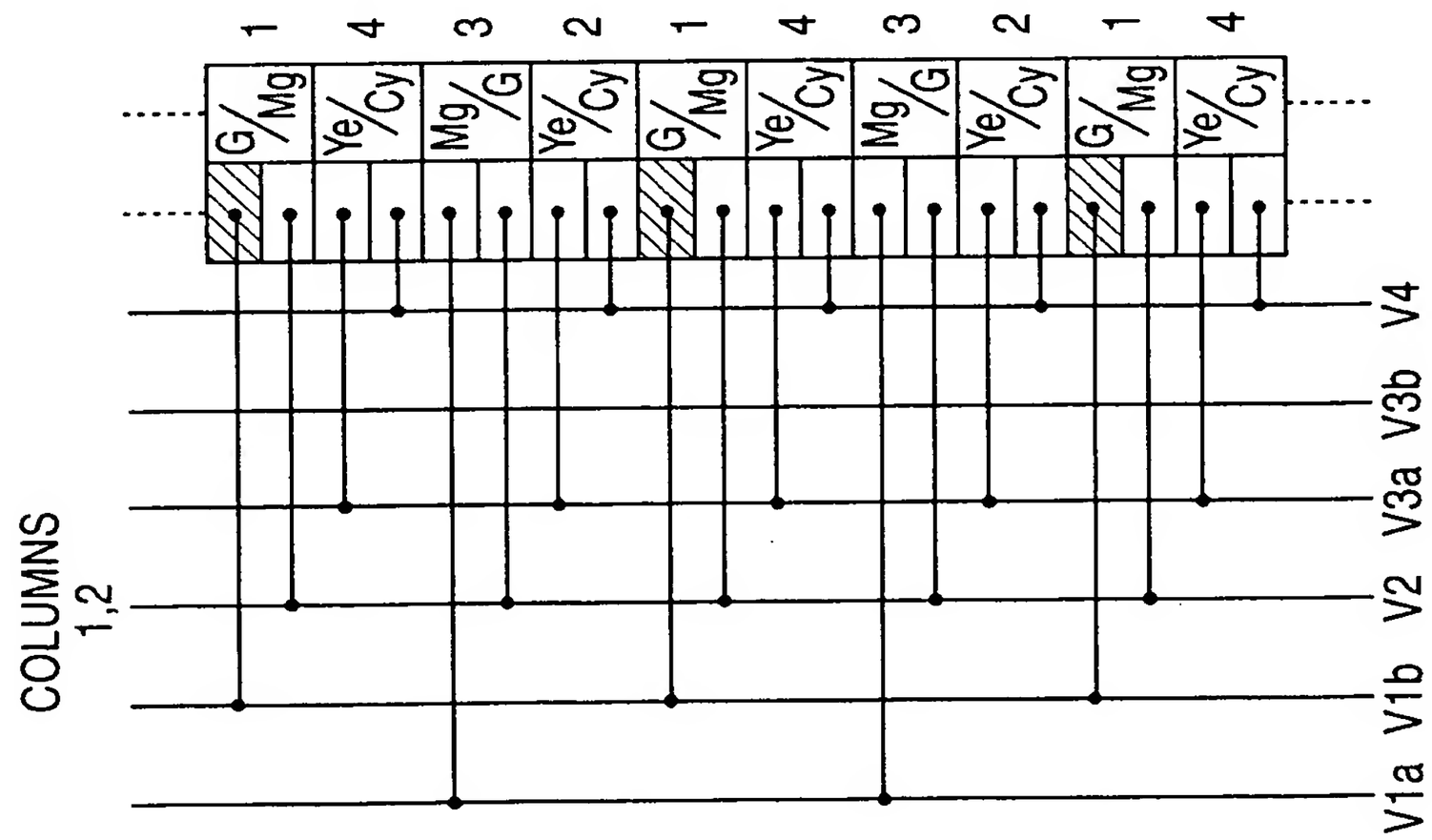


FIG.21(B)

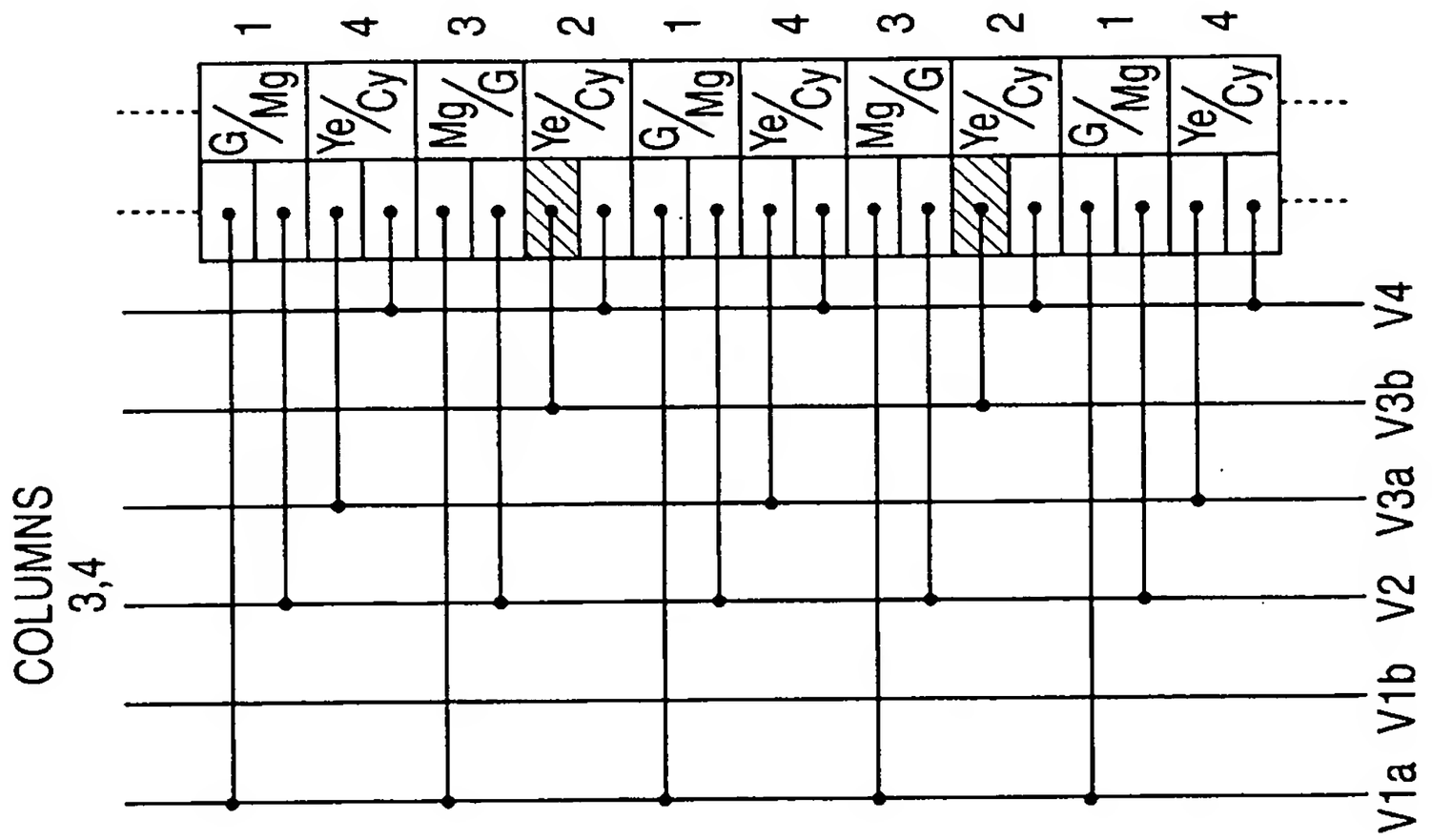


FIG.22(A)

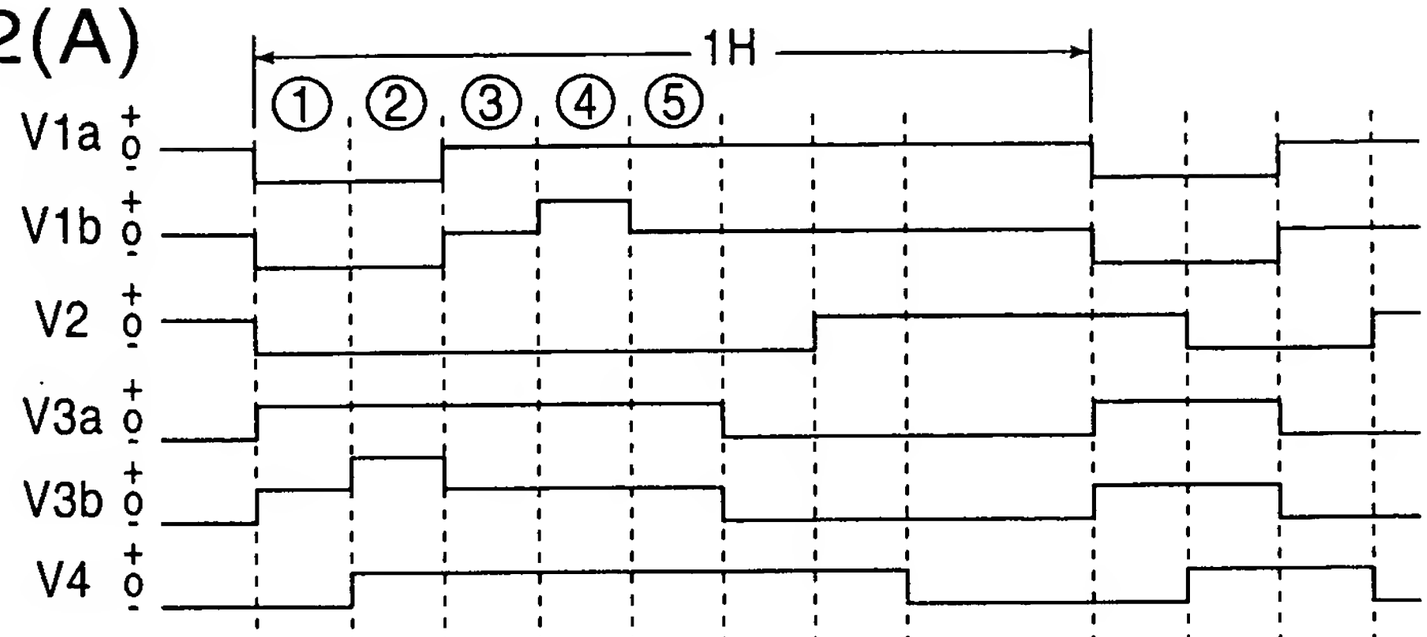
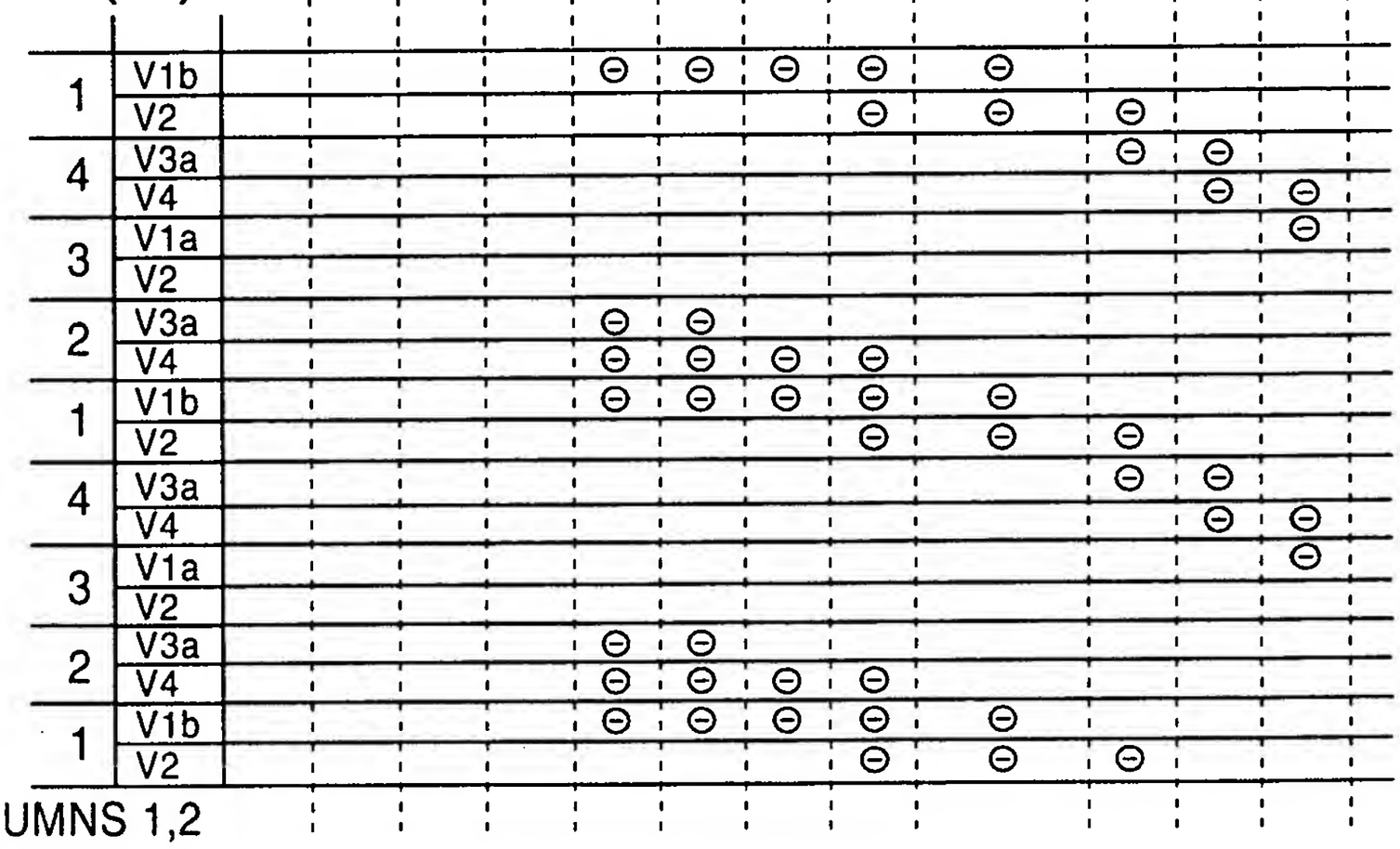
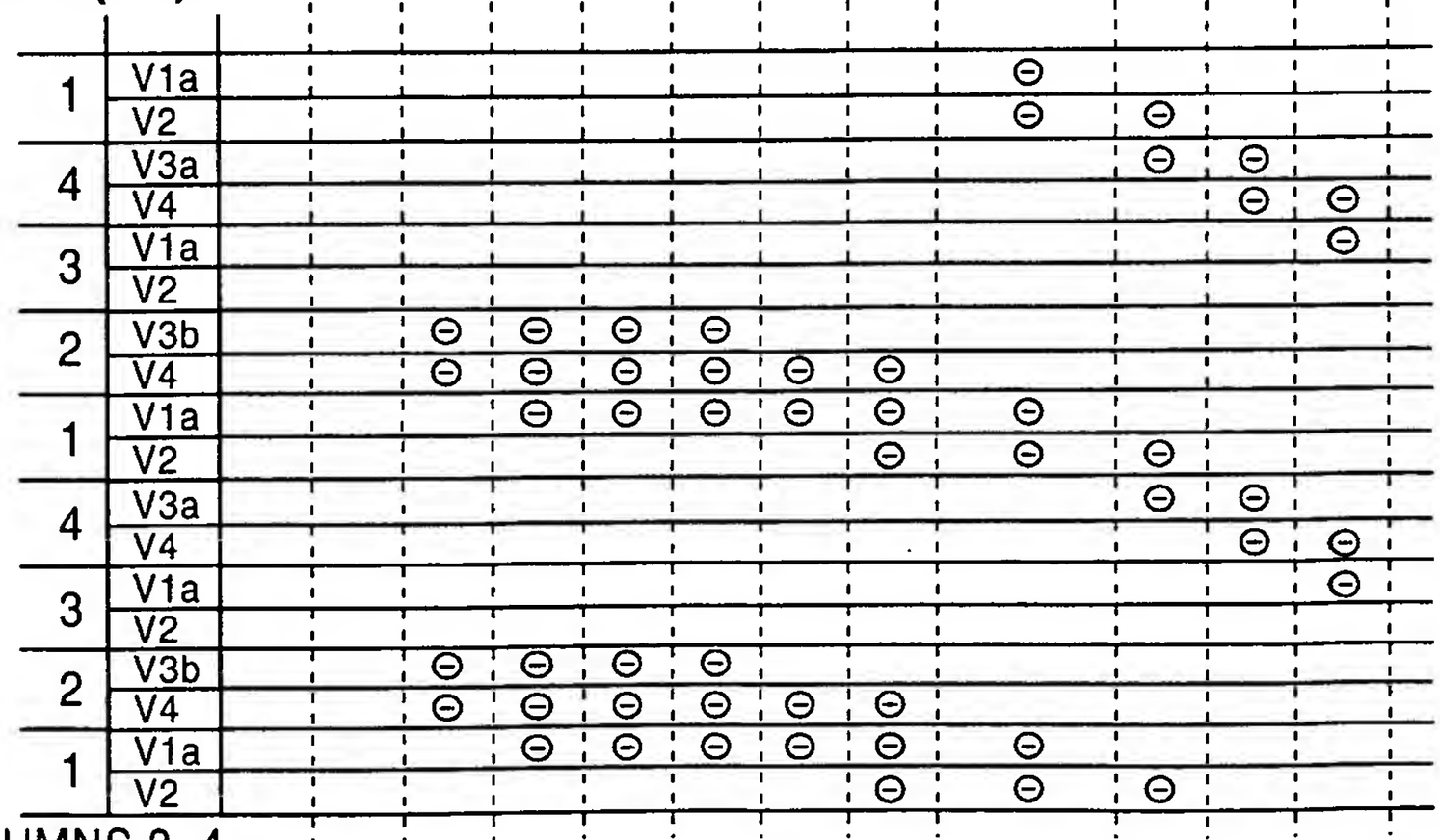


FIG.22(B)



COLUMNS 1,2

FIG.22(C)



COLUMNS 3, 4

FIG.23

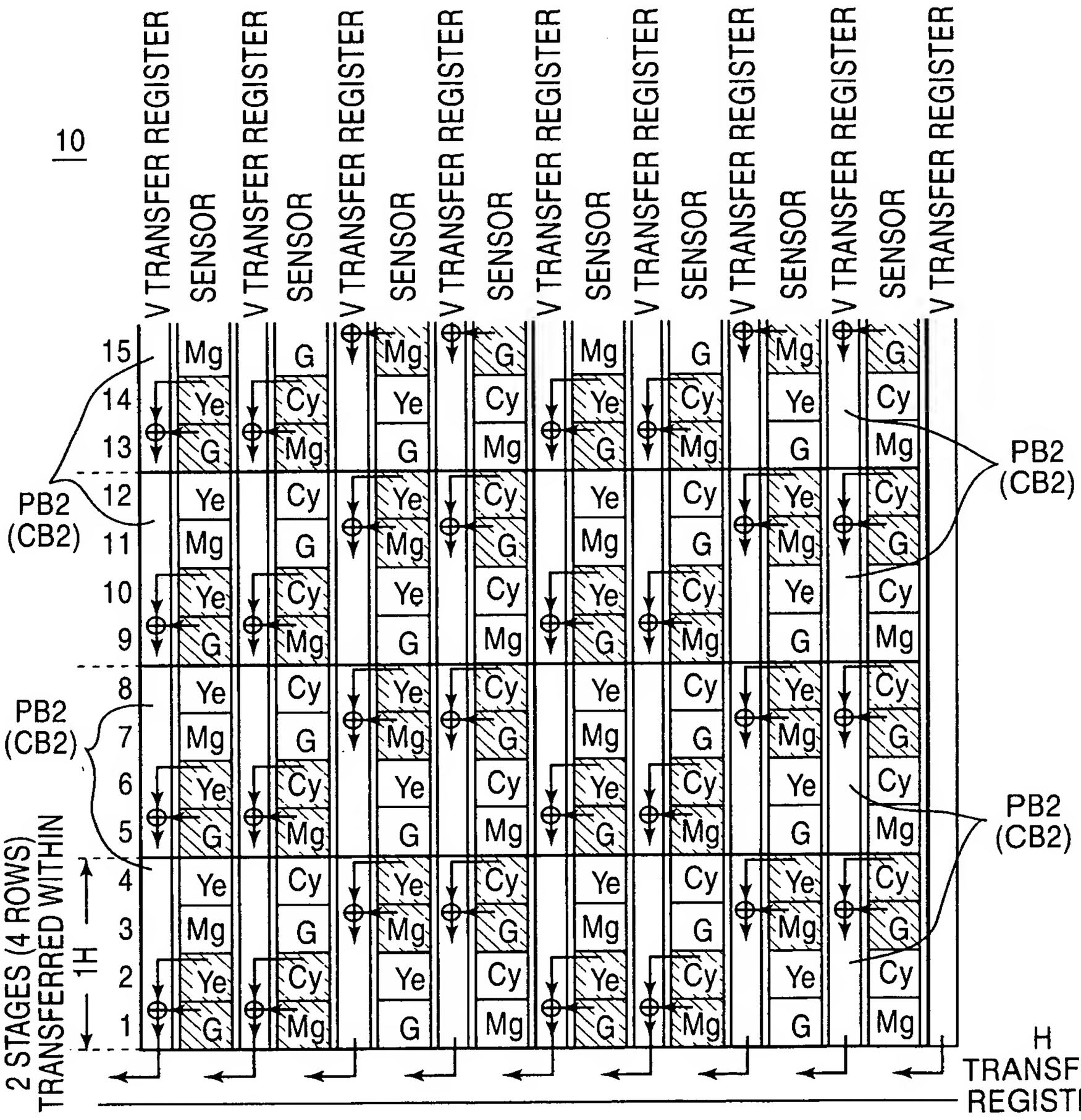

10
V TRANSFER REGISTER
SENSOR
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
Mg
Ye
G
Cy
PB2
(CB2)
2 STAGES (4 ROWS)
TRANSFERRED WITHIN
1H
H
TRANSFER
REGISTER

FIG.24(A)

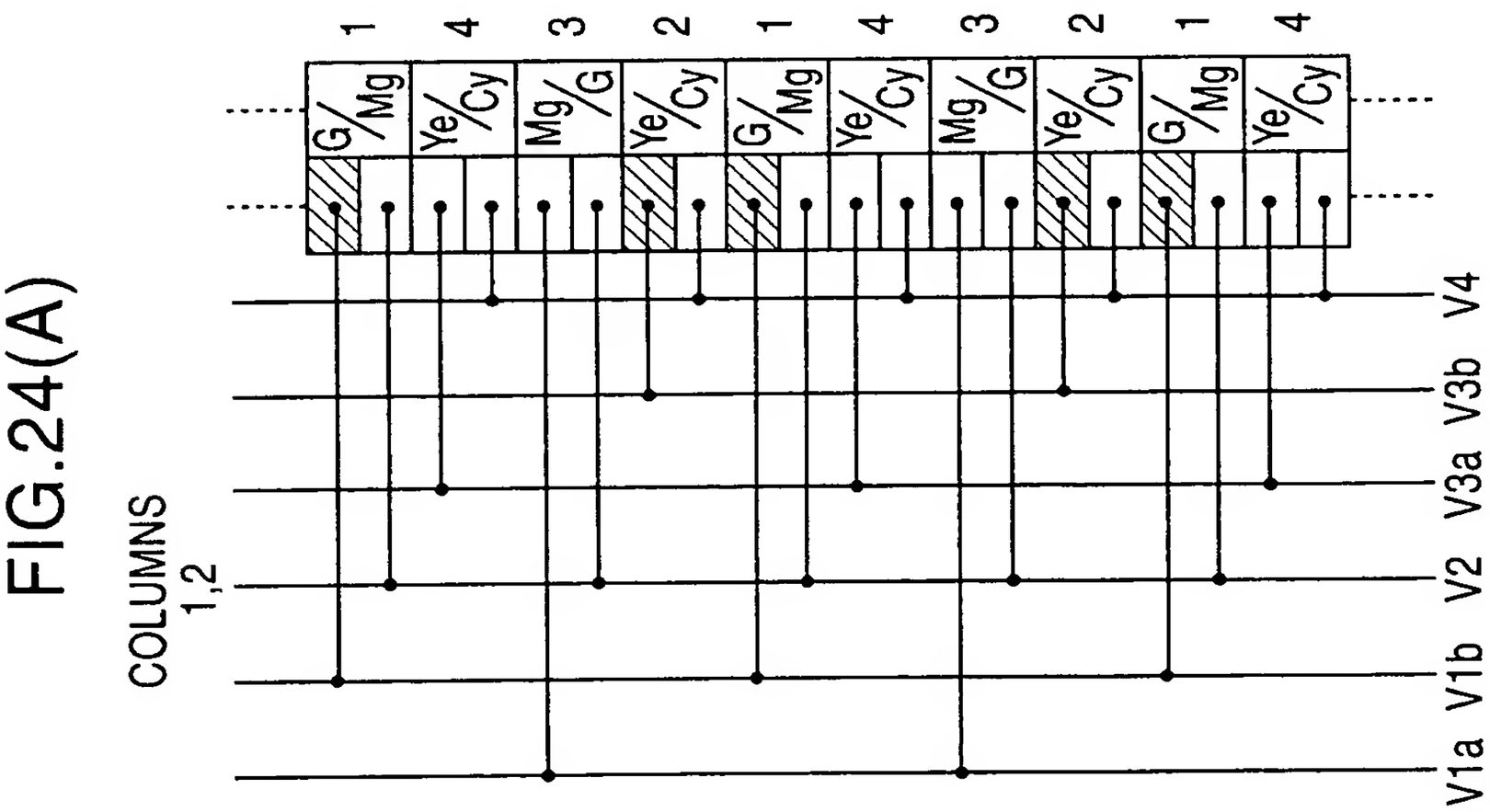


FIG.24(B)

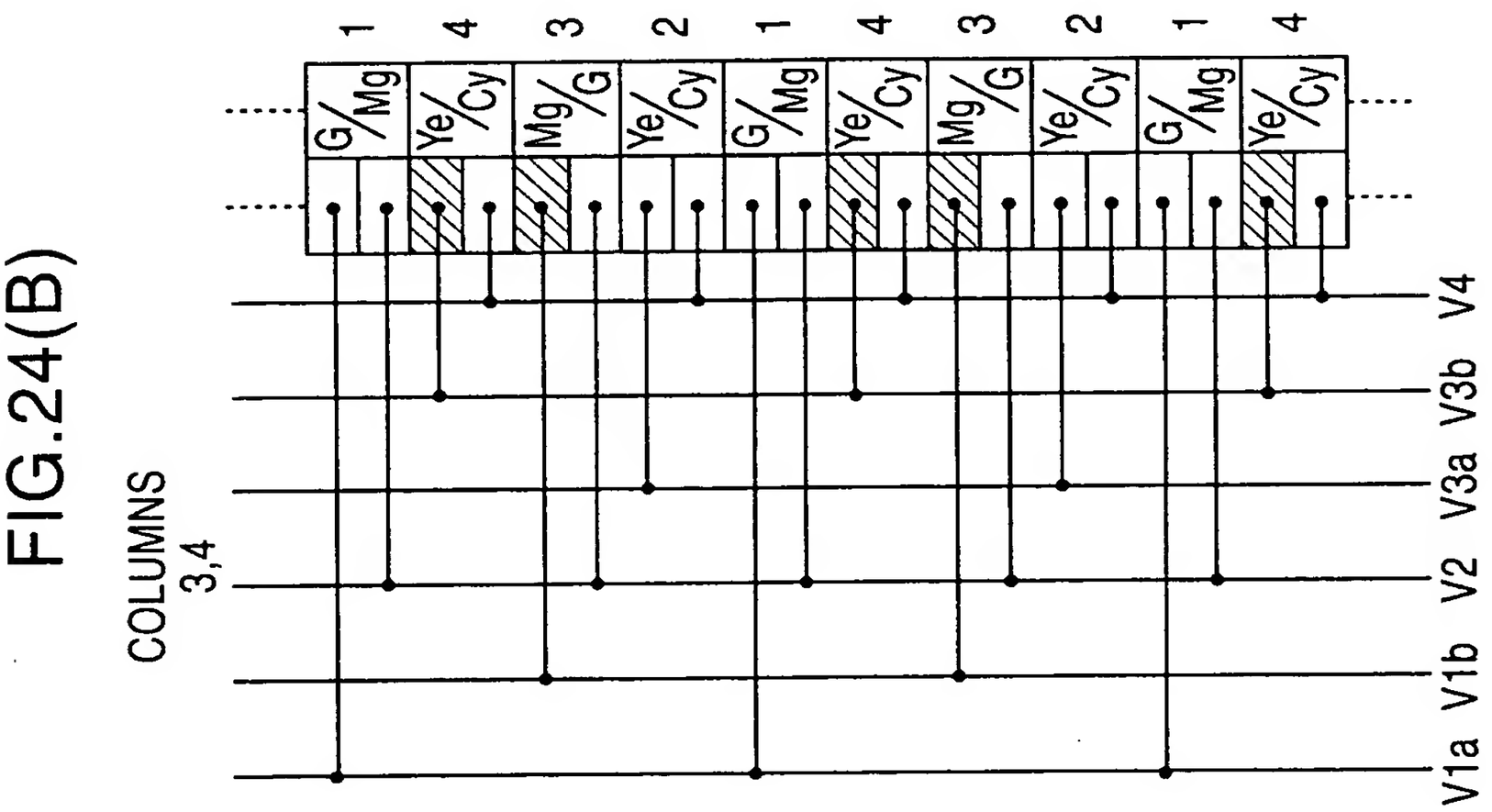


FIG.25(A)

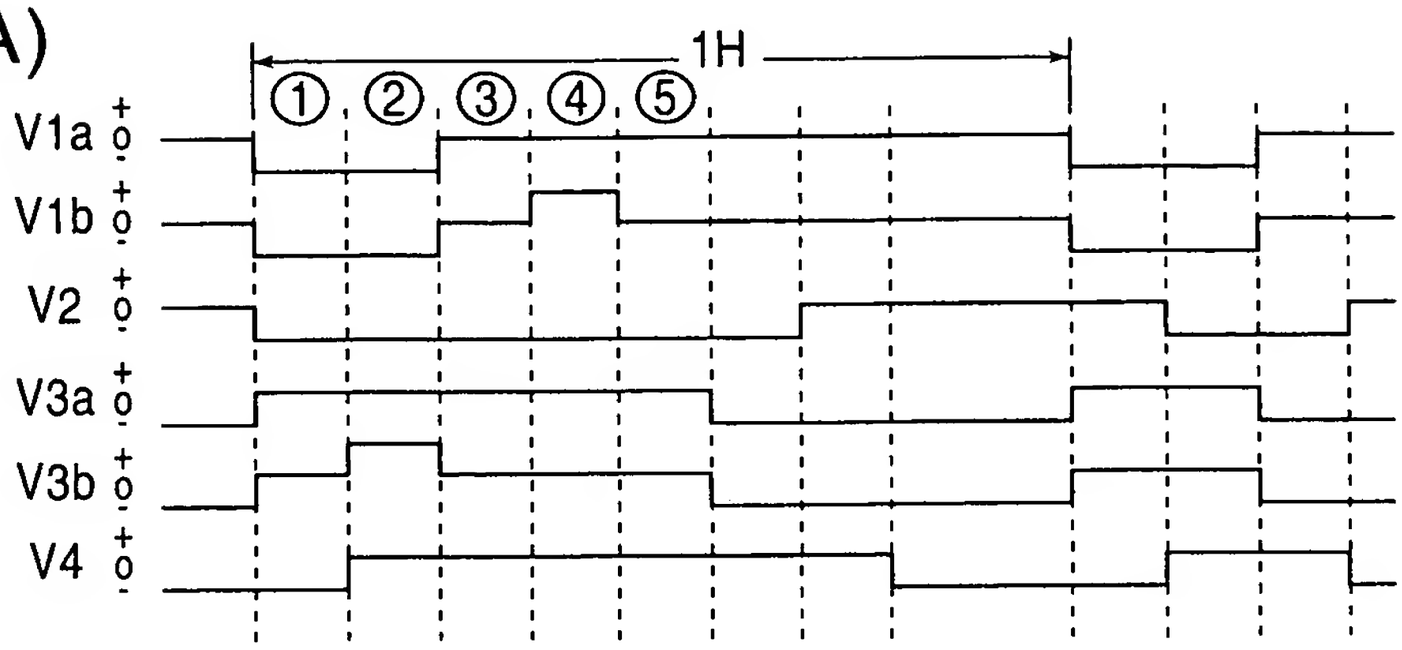
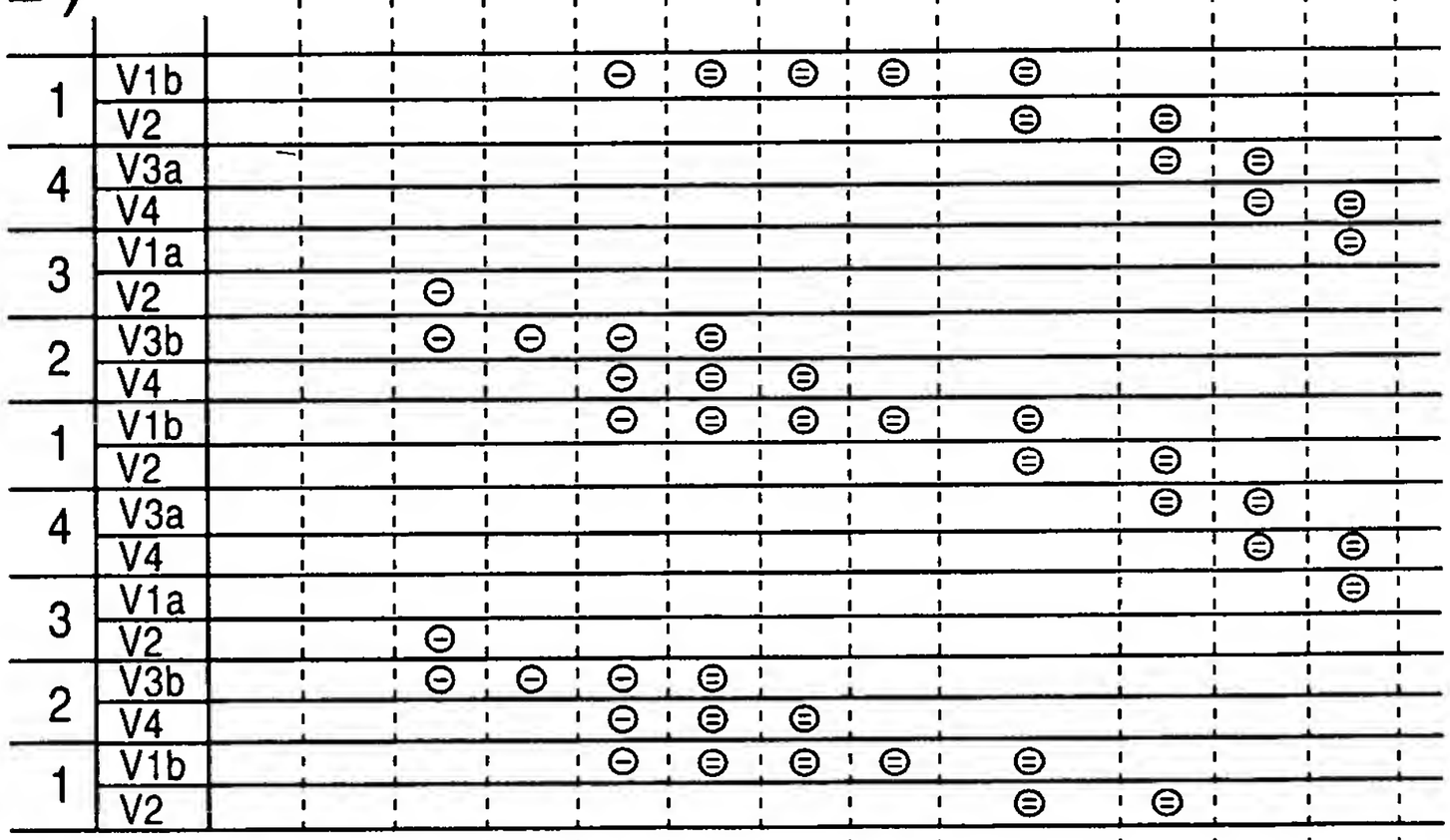
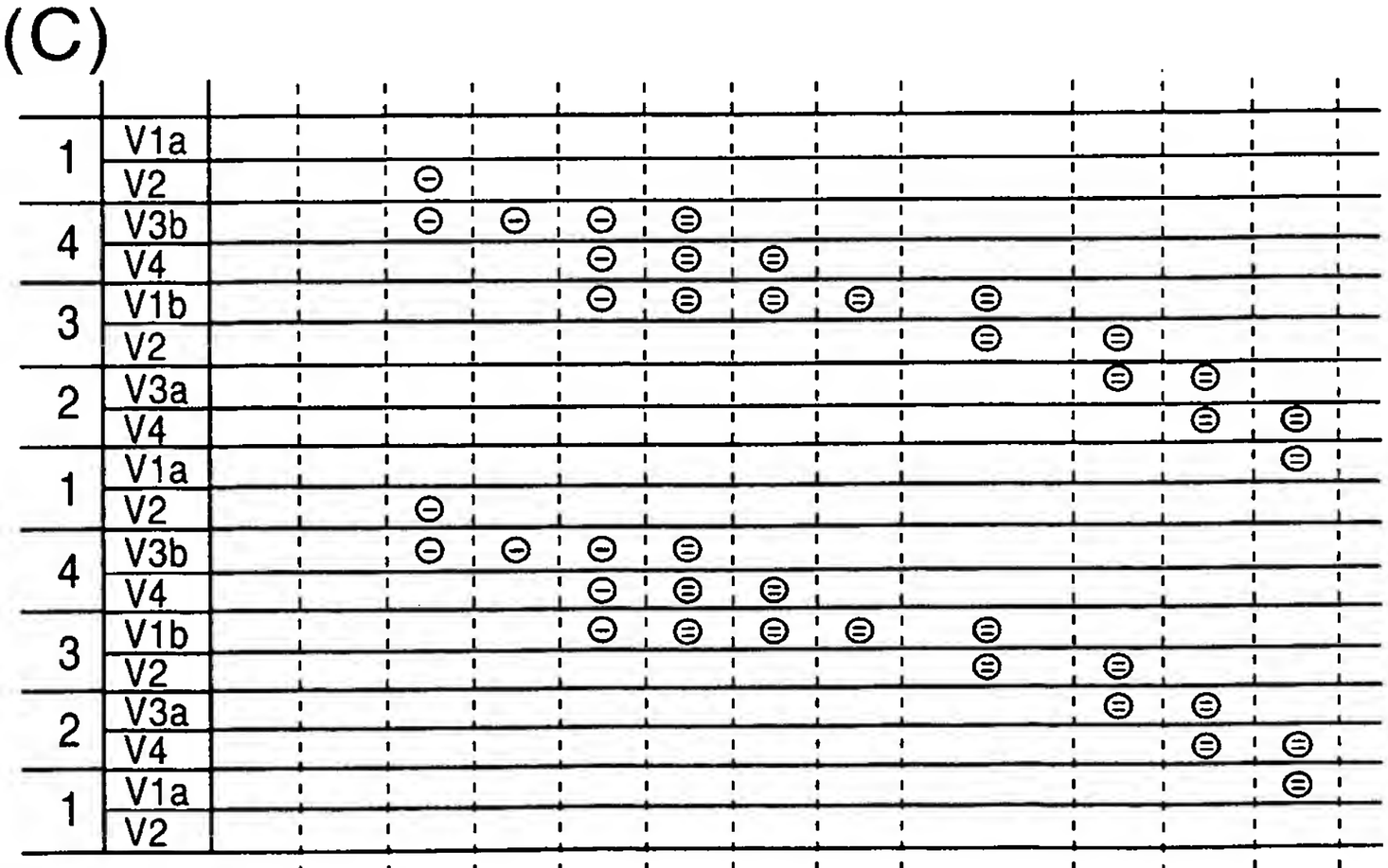


FIG.25(B)



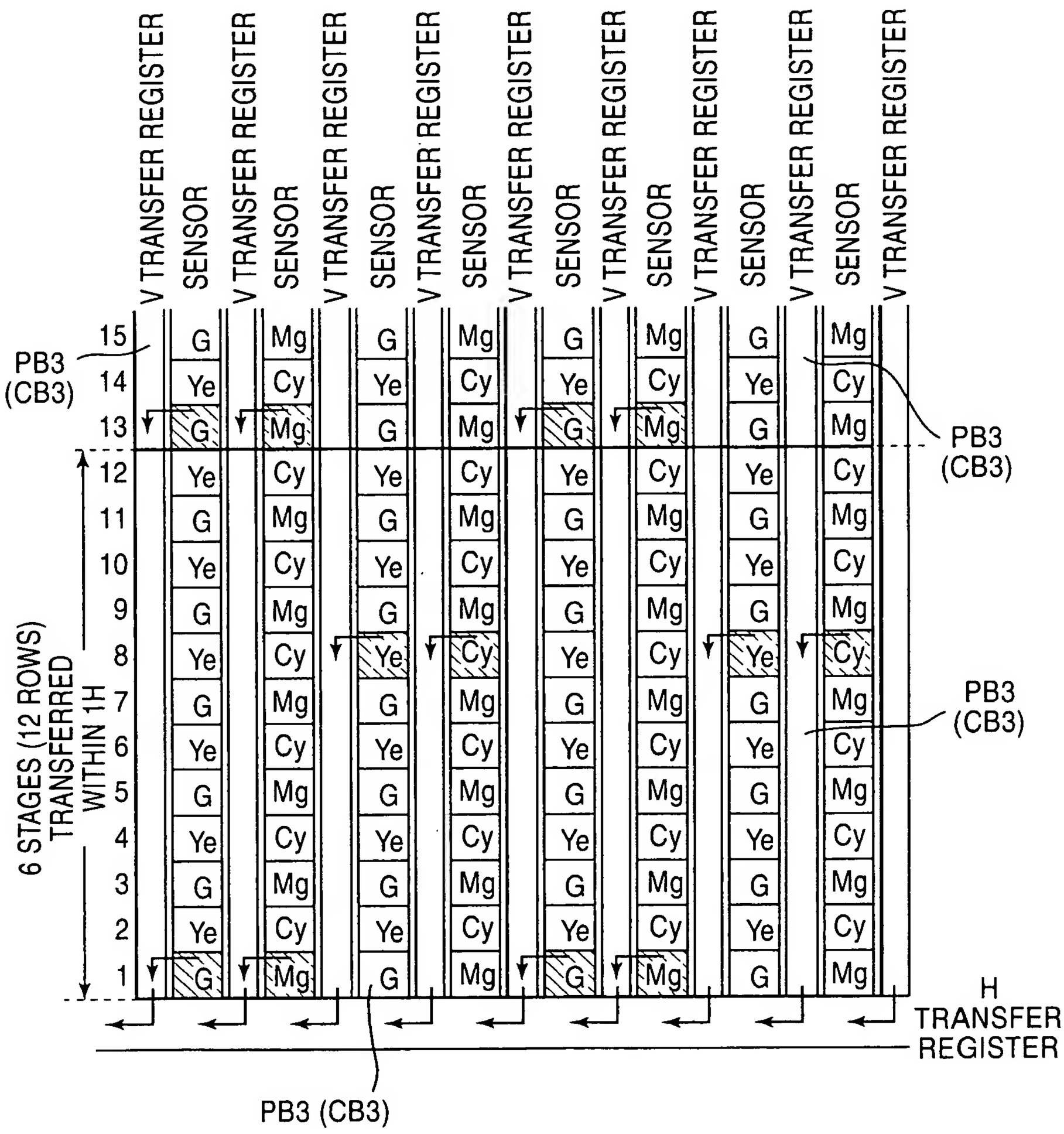
COLUMNS 1,2

FIG.25(C)



COLUMNS 3, 4

FIG.26


V TRANSFER
SENSOR
G
Ye
Mg
Cy
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
PB3
(CB3)
6 STAGES (12 ROWS)
TRANSFERRED
WITHIN 1H
H
TRANSFER
REGISTER

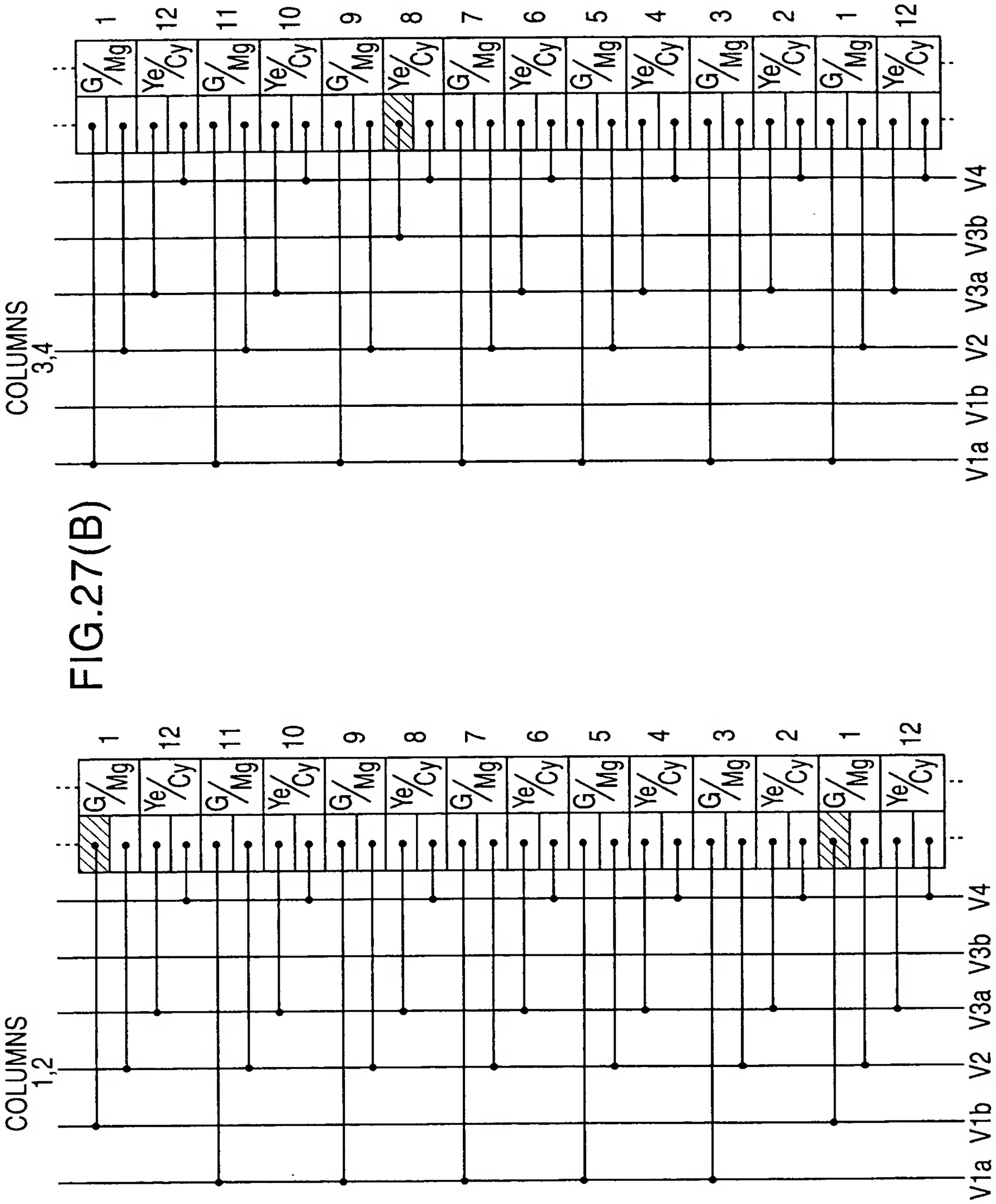


FIG.27(B)

FIG.27(A)

FIG.28(A)

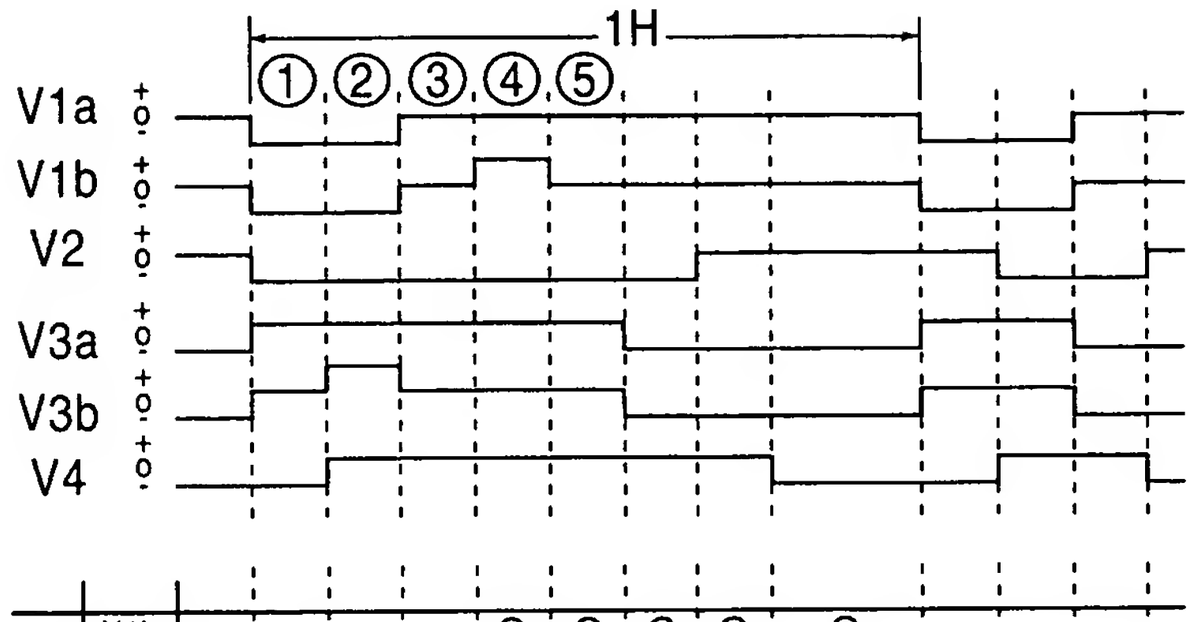
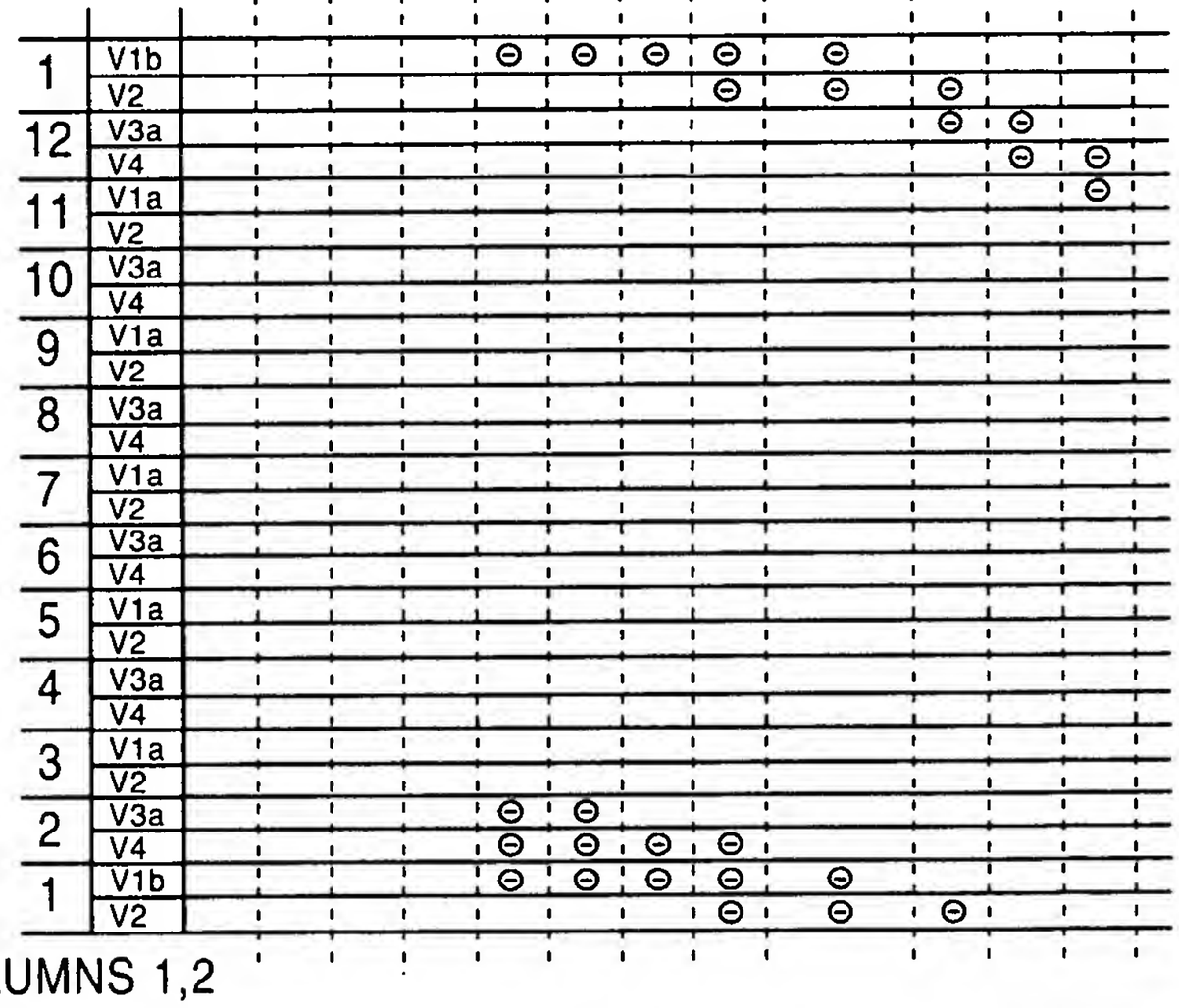
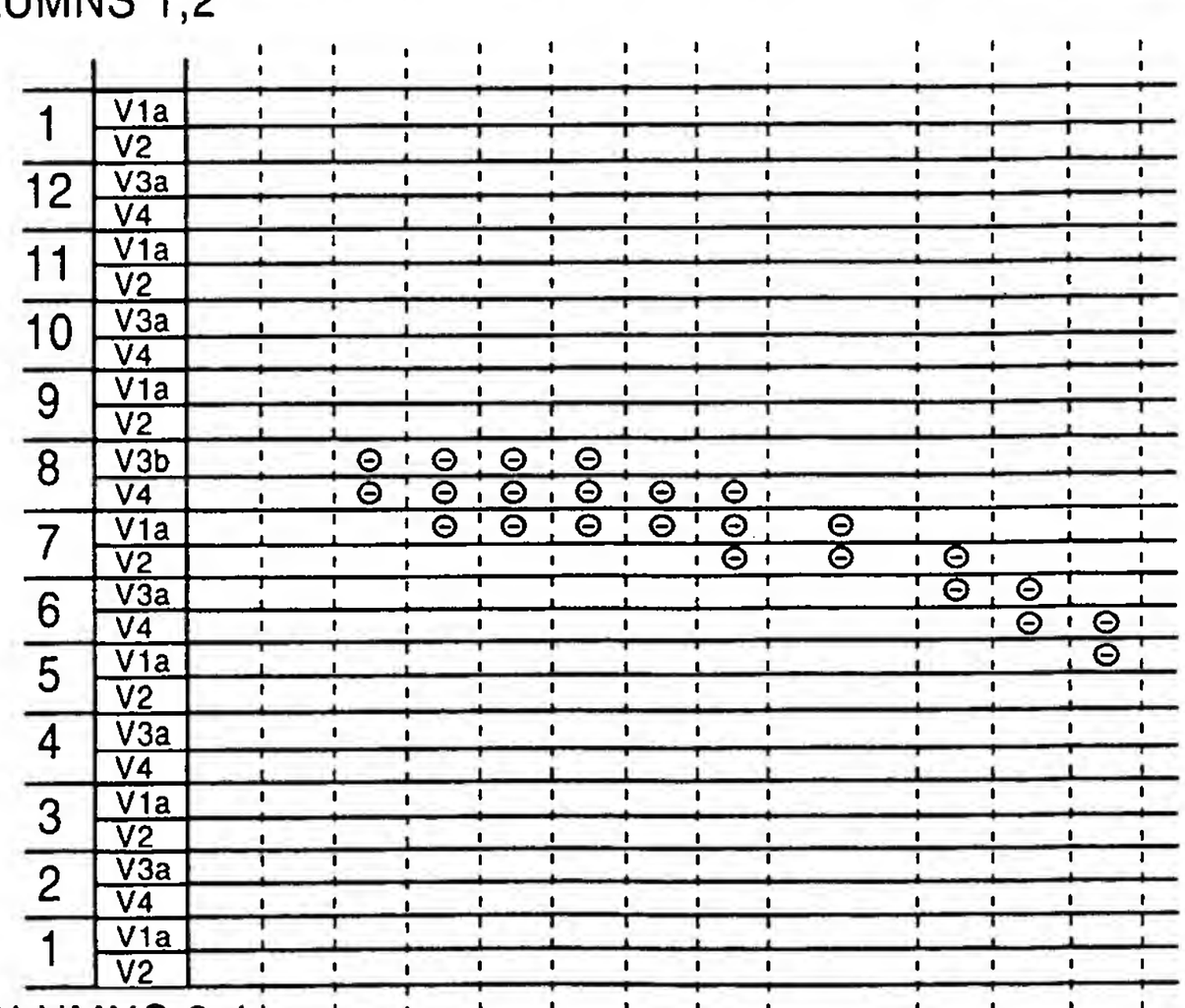


FIG.28(B)



COLUMNS 1,2

FIG.28(C)



COLUMNS 3,4

FIG.29

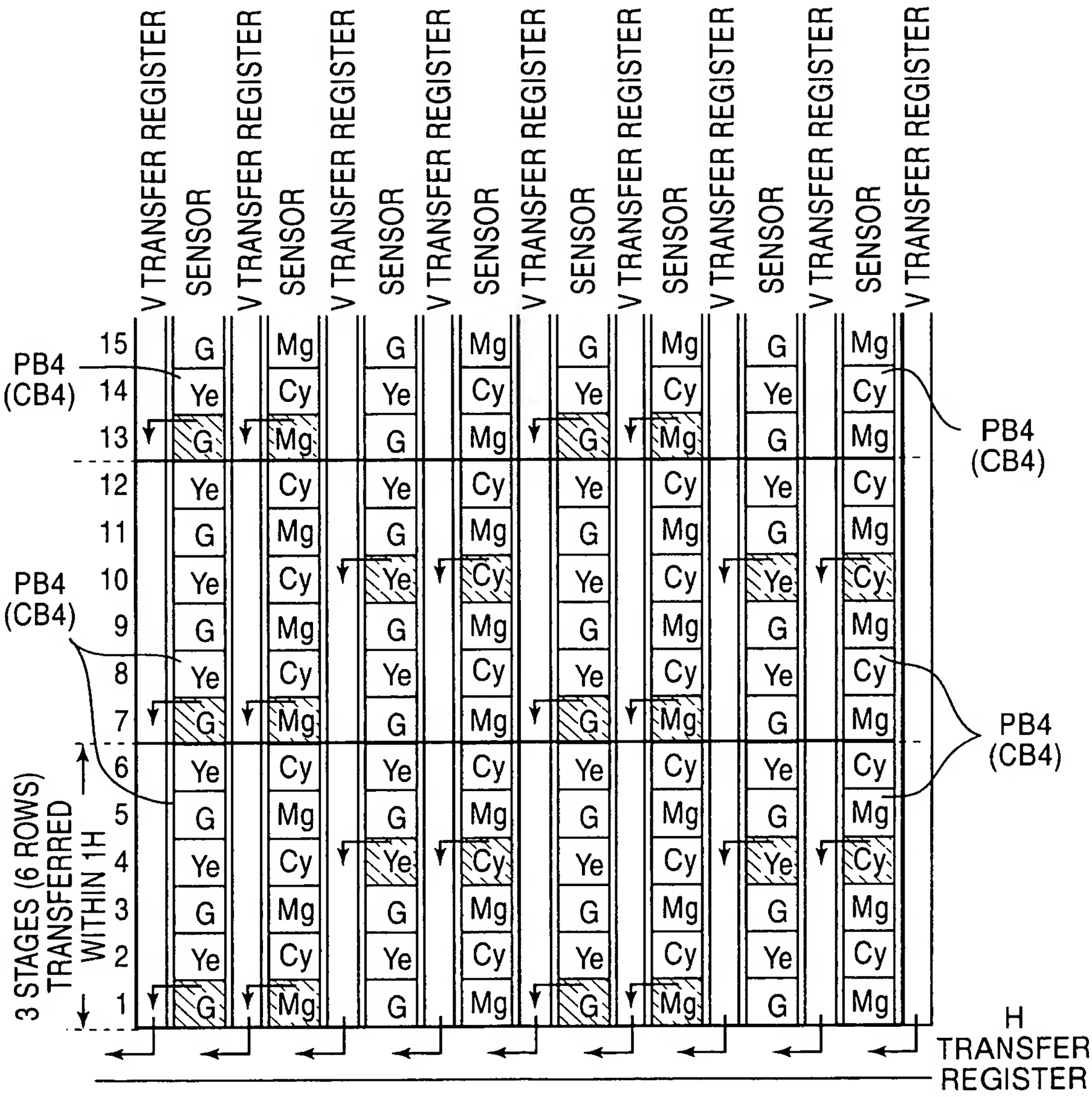

V TRANSFER REGISTER
SENSOR
PB4 (CB4)
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
G
Ye
Cy
Mg
3 STAGES (6 ROWS) TRANSFERRED WITHIN 1H
H TRANSFER REGISTER

FIG.30(A)

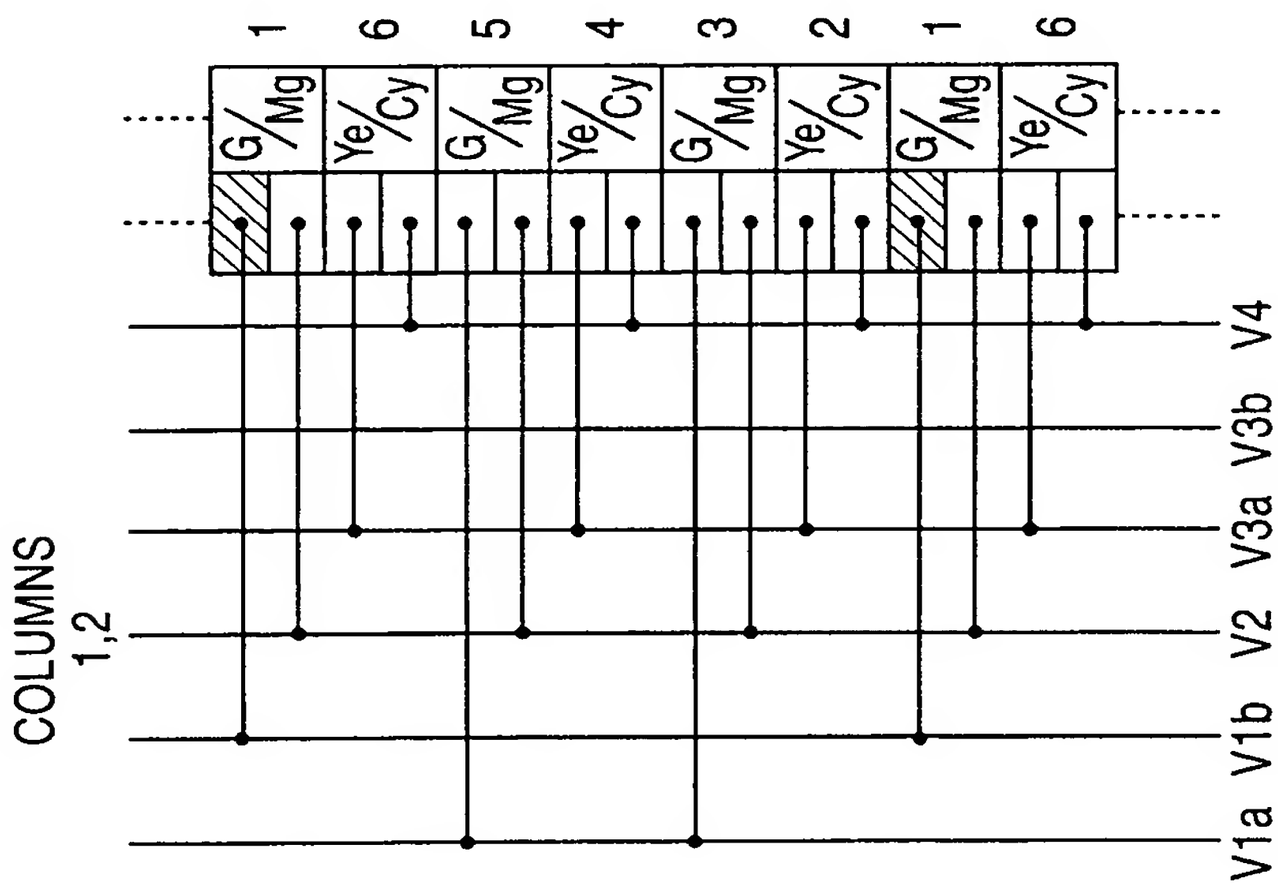


FIG.30(B)

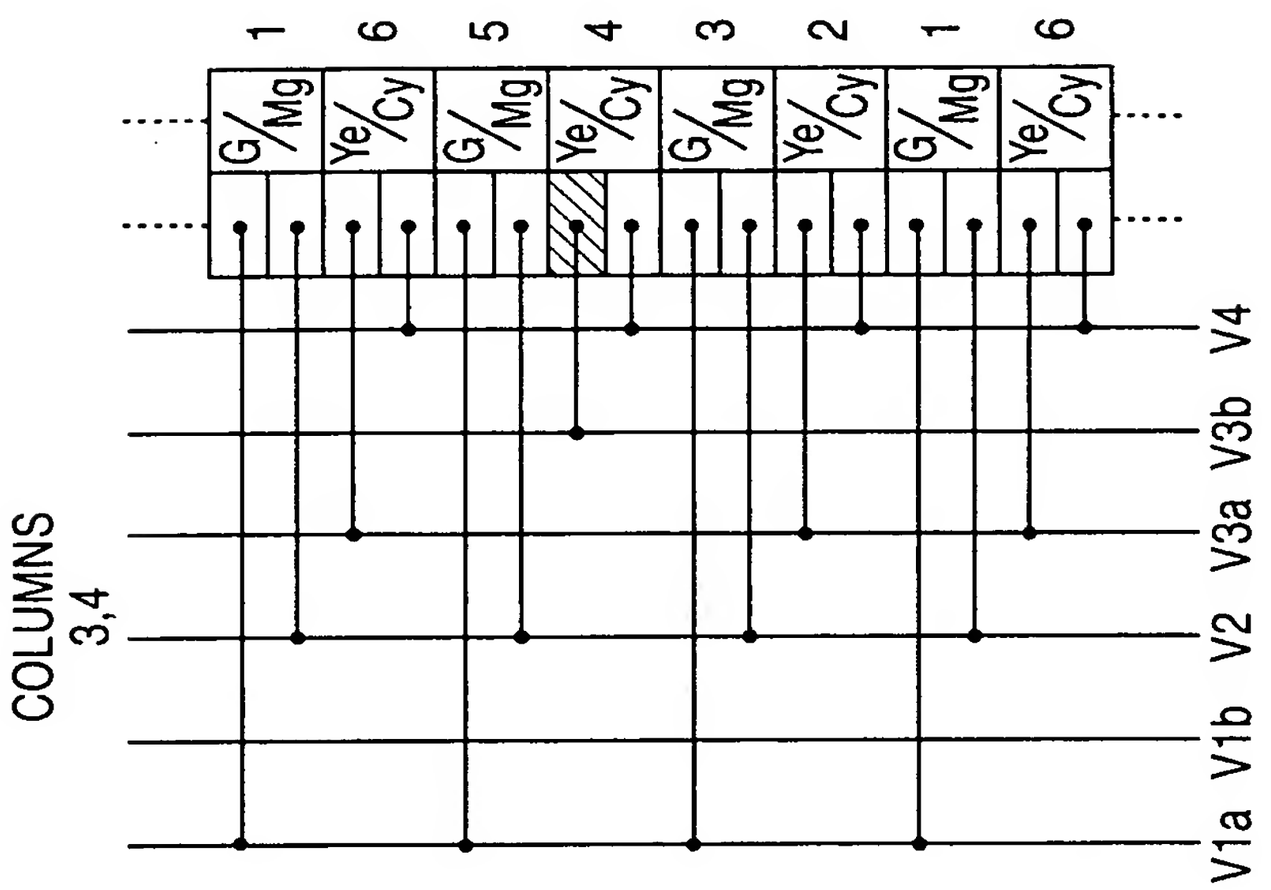


FIG.31(A)

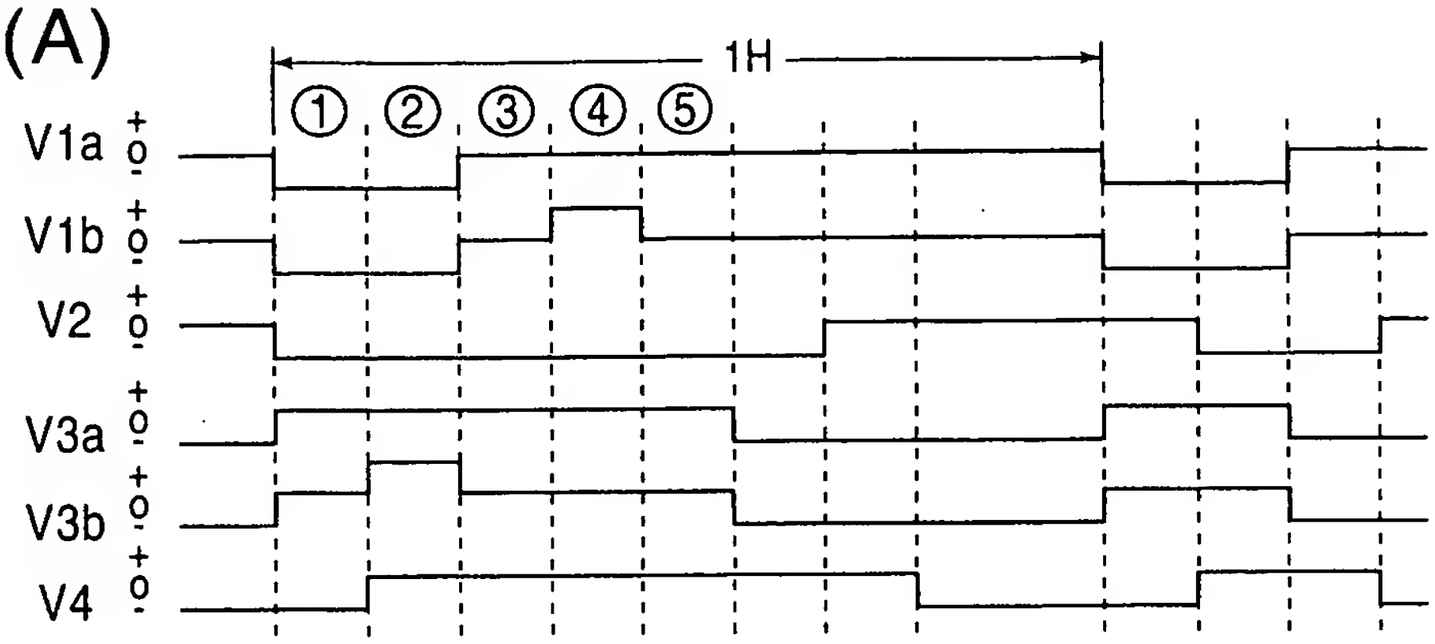
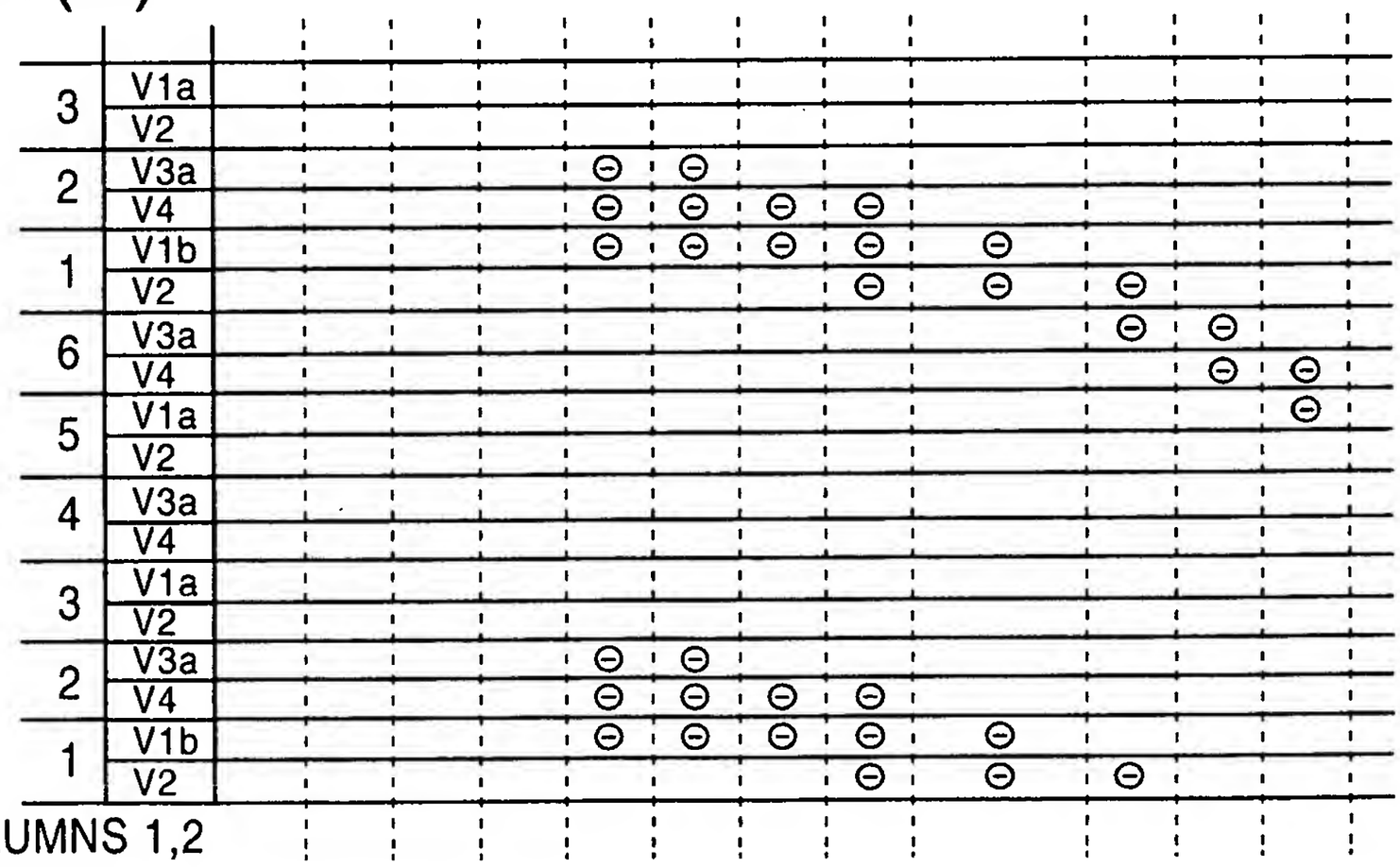
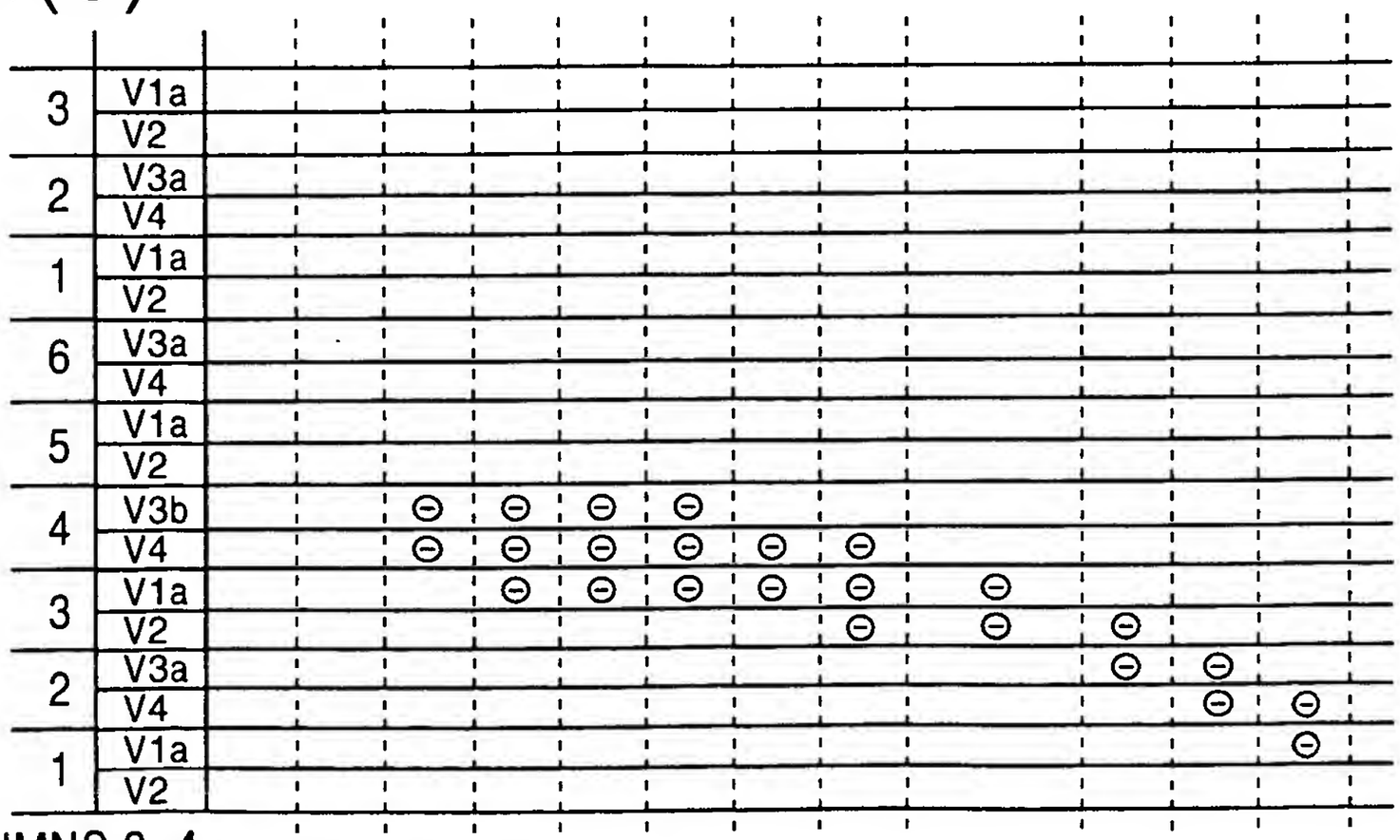


FIG.31(B)



COLUMNS 1,2

FIG.31(C)



COLUMNS 3, 4